CELL	DESCRIPTION	GROUP
D00001	Name Plate	GP & E
D00003	Temporary Concrete Barrier	GP & E
D00004	Total Bill of Material, 15 line	GP & E
D00005	Total Bill of Material, 20 line	GP & E
D00006	Total Bill of Material, 25 line	GP & E
D00007	Total Bill of Material, 30 line	GP & E
D00010	Section thru integral abutment for PPC beams	GP & E
D00011	Section thru integral abutment for steel beams	GP & E
D00012	Section thru pile supported stub abutment for PPC beams	GP & E
D00013	Section thru pile supported stub abutment for steel beams	GP & E
D00014	Section thru semi-integral abutment for PPC beams	GP & E
D00015	Section thru semi-integral abutment for steel beams	GP & E
D00016	Riprap for section thru abutments (use with D00010 through D00015)	GP & E
D00017	Slopewall for section thru abutments (use with D00010 through D00015)	GP & E
D00018	Section Thru Filled Vaulted Abutment	GP & E
D00020	Parapet Joint Details	Superstructure
D00021	Parapet Joint at Sidewalk	Superstructure
D00022	Section thru sidewalk	Superstructure
D00023	42" Section thru parapet for base sheet S-D or S-I-D	Superstructure
D00024	d(E) bar bending diagram for 42" parapet for base sheet S-D or S-I-D	Superstructure
D00025	42" parapet joint details for base sheet S-D or S-I-D	Superstructure
D00026	Anchor rod for light pole mounted on parapet	Superstructure
D00027	d2(E) bar bending diagram for parapet with light pole	Superstructure
D00028	d3(E) bar bending diagram for parapet with light pole	Superstructure
D00029	Plan view of parapet with light pole, conduit inside parapet	Superstructure
D00030	Section A-A of parapet with light pole, conduit inside parapet	Superstructure
D00031	Plan view of parapet with light pole	Superstructure
D00032	Section A-A of parapet with light pole, conduit outside parapet	Superstructure
D00033	Inside Elevation of 42" Parapet for superstructure detail sheet	Superstructure
D00040	Drainage Scupper, DS-11 details	Drainage
D00041	Drainage Scupper, DS-11 details	Drainage
D00042	Drainage Scupper, DS-12 details	Drainage
D00043	Drainage Scupper, DS-12 details	Drainage

CELL	DESCRIPTION	GROUP
D00044	Drainage Scupper, DS-12M10 details	Drainage
D00045	Drainage Scupper, DS-33 details	Drainage
D00046	4 in x 12 in drain details	Drainage
D00050	Strip seal joint for deck beams with CWS	Joint
Note: Cells D00060 thru D00069 are to be used as required on PPC Deck Beam Superstructure sheets where sections are to be inserted.		
D00060	Sect thru fixed abut for 11'' PPC deck beam with conc. wearing surface and approach slab	Deck Beams
D00061	Sect thru fixed abut. for 11'' PPC deck beam with HMA wearing surface and approach slab	Deck Beams
D00062	Sect thru fixed abut. for 17'' and 21'' PPC deck beams with conc. wearing surface and approach slab	Deck Beams
D00063	Sect thru fixed abut. for 17'' and 21'' PPC deck beams with HMA wearing surface and approach slab	Deck Beams
D00064	Sect thru fixed abut. for 27'', 33", and 42'' PPC deck beams with conc. wearing surface and approach slab	Deck Beams
D00065	Sect thru fixed abut. for 27'', 33", and 42'' PPC deck beams with HMA wearing surface and approach slab	Deck Beams
D00066	Sect thru fixed abut. for 11'' thru 42'' PPC deck beams with conc. wearing surface without approach slab	Deck Beams
D00067	Sect thru fixed abut. for 11'' thru 42'' PPC deck beams with HMA wearing surface without approach slab	Deck Beams
D00068	Sect thru fixed pier for 11'' thru 42'' PPC deck beams with concrete wearing surface	Deck Beams
D00069	Sect thru fixed pier for 11'' thru 42'' PPC deck beams with HMA wearing surface	Deck Beams
D00070	Plan View of alternate fixed bearings at abutments	Deck Beams
D00071	Plan View of alternate fixed bearings at pier	Deck Beams
D00072	Sect thru fixed abut. with alternate fixed bearings	Deck Beams
D00073	Sect thru fixed pier with alternate fixed bearings	Deck Beams
D00074	Sect thru expansion abut. for 11'' PPC deck beams with conc. wearing surface	Deck Beams
D00075	Sect thru expansion abut. for 17'' and 21'' PPC deck beams with conc. wearing surface and approach slab	Deck Beams
D00076	Sect thru expansion abut. for 17'' and 21'' PPC deck beams with HMA wearing surface and approach slab	Deck Beams
D00077	Sect thru expansion abut. for 27'', 33", and 42'' PPC deck beams with conc. wearing surface and approach slab	Deck Beams
D00078	Sect thru expansion abut. for 27'', 33", and 42'' PPC deck beams with HMA wearing surface and approach slab	Deck Beams
D00079	Sect thru expansion abut. for 11'' thru 42'' PPC deck beams with conc. wearing surface without approach slab	Deck Beams
D00080	Sect thru expansion abut. for 17'' thru 42'' PPC deck beams with HMA wearing surface without approach slab	Deck Beams
D00081	Sect thru expansion pier for 11'' thru 42'' PPC deck beams with conc. wearing surface	Deck Beams
D00082	Sect thru expansion pier for 17'' thru 42'' PPC deck beams with HMA wearing surface	Deck Beams
D00083	Retainer angle at expansion joint of deck beams	Deck Beams
D00084	Shear key clamping details at stage construction joint	Deck Beams
D00090	Bearing detail for integral abutment with steel beams	Bearing
D00100	Stud shear connector details	Structural Steel
D00101	Interior diaphragm beam or girder up to 42"	Structural Steel

CELL	DESCRIPTION	GROUP
D00102	Interior diaphragm plate girder < 48"	Structural Steel
D00103	End diaphragm for wide flange beams	Structural Steel
D00104	End diaphragm for shallow plate girders	Structural Steel
D00105	End diaphragm for plate girders < 48" and skew < 45 deg with finger plate or modular joints	Structural Steel
D00110	End diaphragm stage construction sequence for wide flange beams	Structural Steel
D00111	End diaphragm stage construction sequence for plate girders	Structural Steel
D00120	Wide flange splice detail (outside flange plates only)	Structural Steel
D00130	LRFD data tables (Non-composite in negative moment regions)	Design Tables
D00131	LRFD data tables (Composite in negative moment regions)	Design Tables
D00132	LRFD data tables for curved girders	Design Tables
D00133	LRFD PPC I beam data tables	Design Tables
D00134	LFD data tables	Design Tables
D00135	LFD data tables for curved girders	Design Tables
D00136	LFD PPC I beam data tables	Design Tables
D00140	Geotextile wall form brace details	Wall
D00141	Geotextile wall procedure	Wall
D00155	Permanent bracing details for IL27 & IL36 beams	Superstructure
D00156	Permanent bracing details for IL45 & IL54 beams	Superstructure
D00157	Permanent bracing details for IL63 & IL72 beams	Superstructure
D00158	Permanent bracing detail - No skew	Superstructure
D00159	Permanent bracing detail - Skewed	Superstructure
D00160	Permanent bracing details for 36'' & 42'' PPC I beams	Superstructure
D00161	Permanent bracing details for 48'' & 54'' PPC I beams	Superstructure
D00162	Permanent bracing details for Bulb T beams	Superstructure
D00163	Bar splicer assembly for edge beams at stage construction joint	Superstructure
D00170	View E-E for Bridge approach slabs with 42" parapets	Approach Slabs
D00200	Dead load deflection diagram for top of slab elevations	TOS Elevations
D00201	PPC Bulb T-beam fillet height detail for top of slab elevations	TOS Elevations
D00202	PPC I-beam fillet height detail for top of slab elevations	TOS Elevations

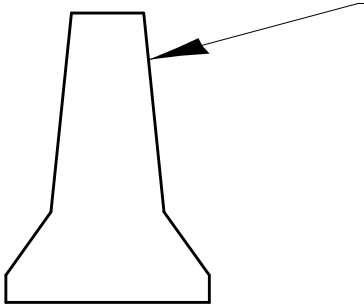
Cell Name: D00001
Descrip: Name Plate

STATION
BUILT BY
STATE OF ILLINOIS
LOADING HL-93
STRUCTURE NO.

NAME PLATE

See Std. 515001

Cell Name: D00003
Descrip: Temporary Concrete Barrier



Temporary Concrete Barrier

See Std. 704001, typ.

Cell Name: D00004
Descrip: Total Bill of Material, 15 line

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL

Cell Name: D00005
Descrip: Total Bill of Material, 20 line

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL

Cell Name: D00006
Descrip: Total Bill of Material, 25 line

TOTAL BILL OF MATERIAL

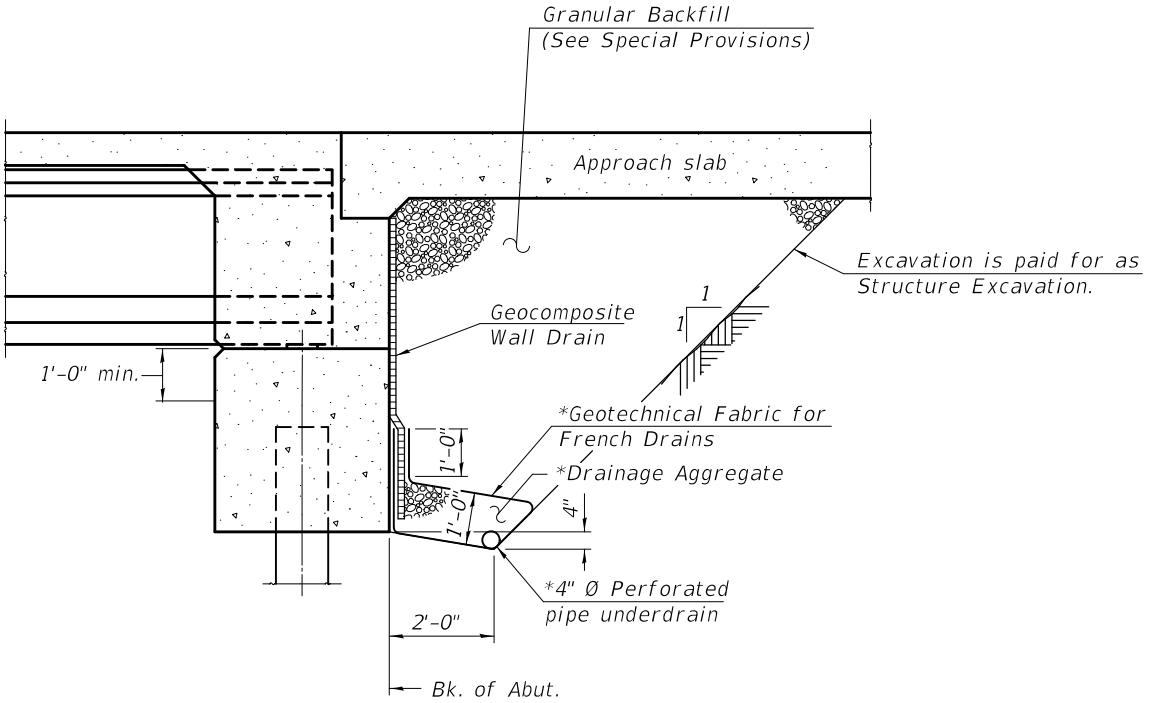
ITEM	UNIT	SUPER	SUB	TOTAL

Cell Name: D00007
Descrip: Total Bill of Material, 30 line

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL

Cell Name: D00010
Descrip: Section thru integral abutment for PPC beams



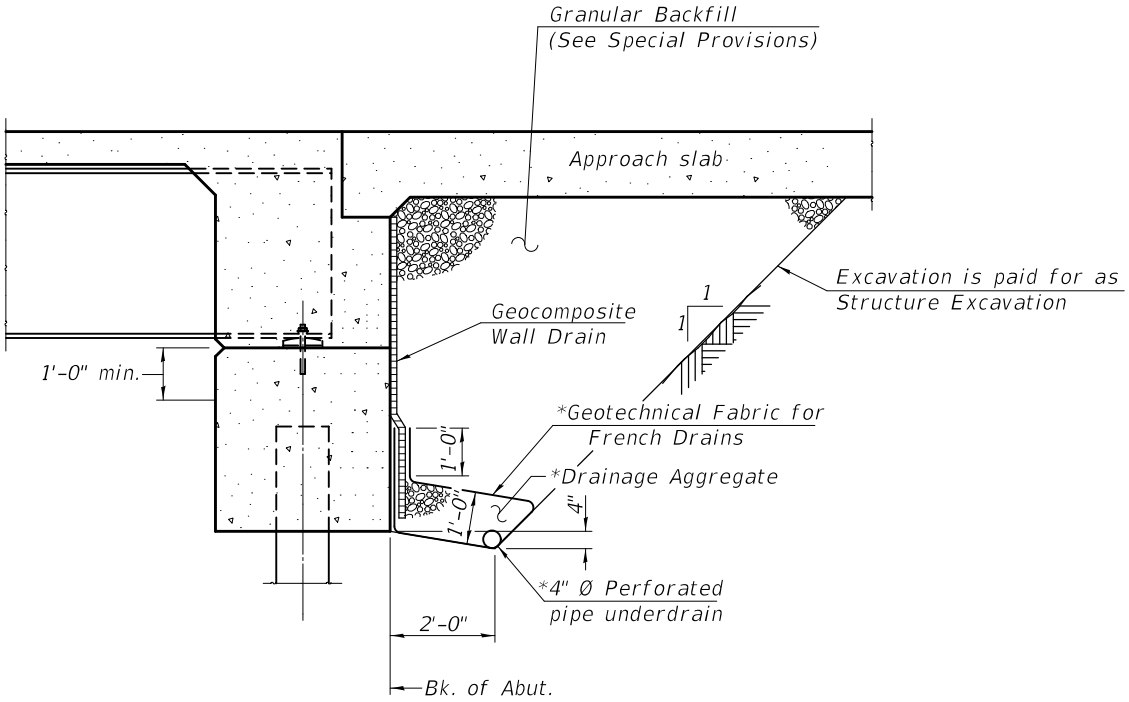
SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. ∠'s)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Cell Name: D00011
Descrip: Section thru integral abutment for steel beams



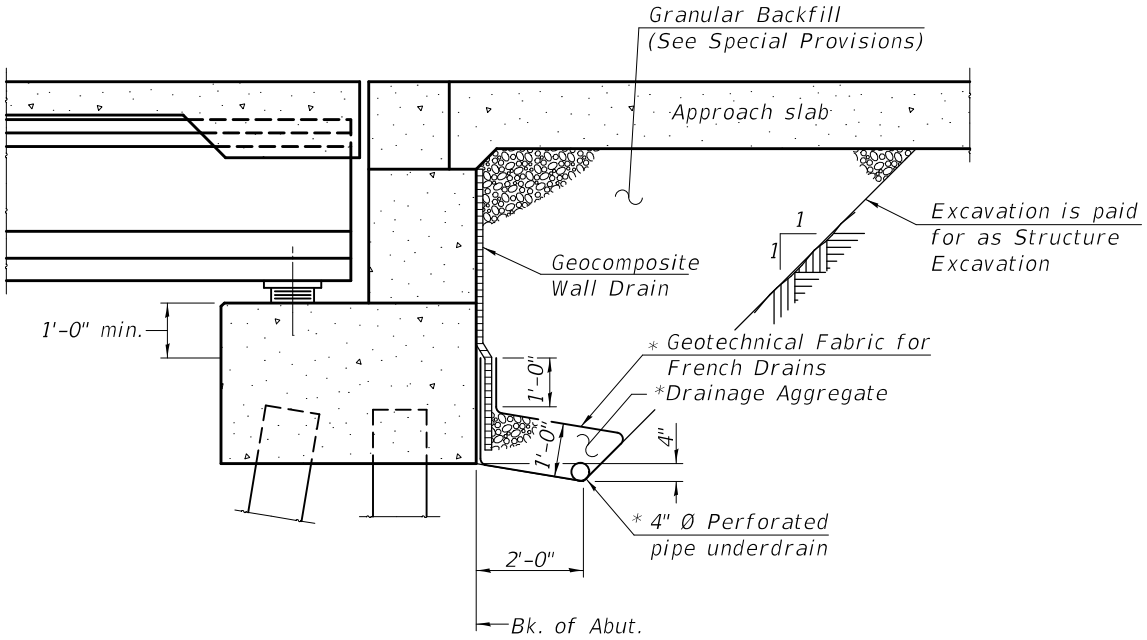
SECTION THRU INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. ∠'s)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Cell Name: D00012
Descrip: Section thru pile supported stub abutment for PPC beams



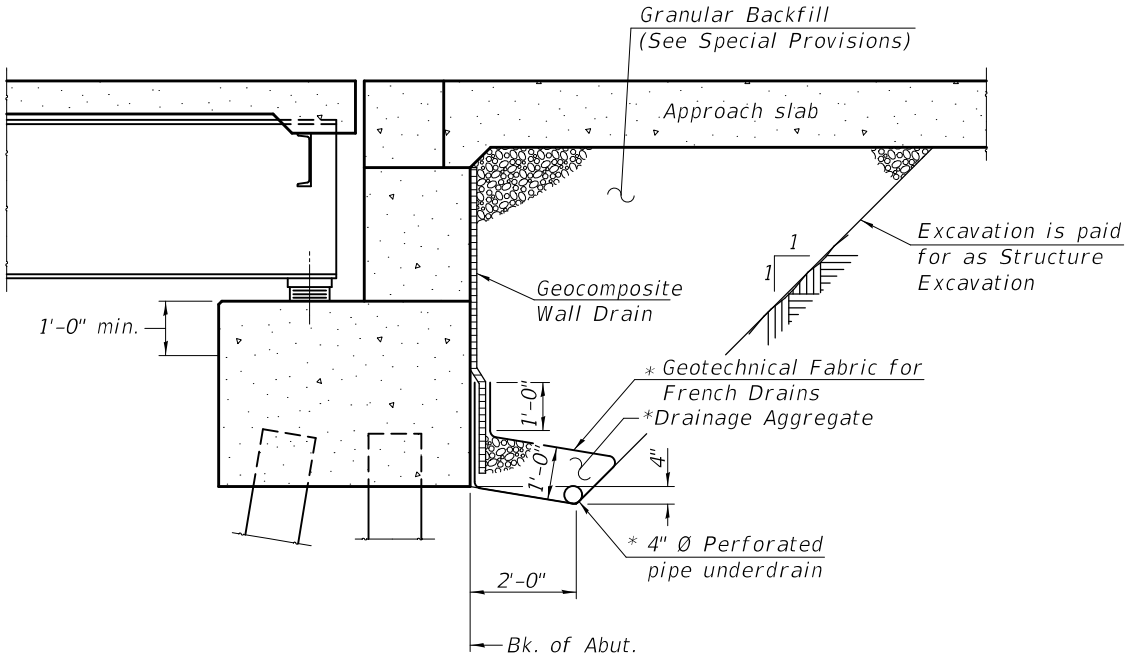
SECTION THRU PILE SUPPORTED STUB ABUTMENT

(Horiz. dim. @ Rt. ∠'s)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Cell Name: D00013
Descrip: Section thru pile supported stub abutment for steel beams



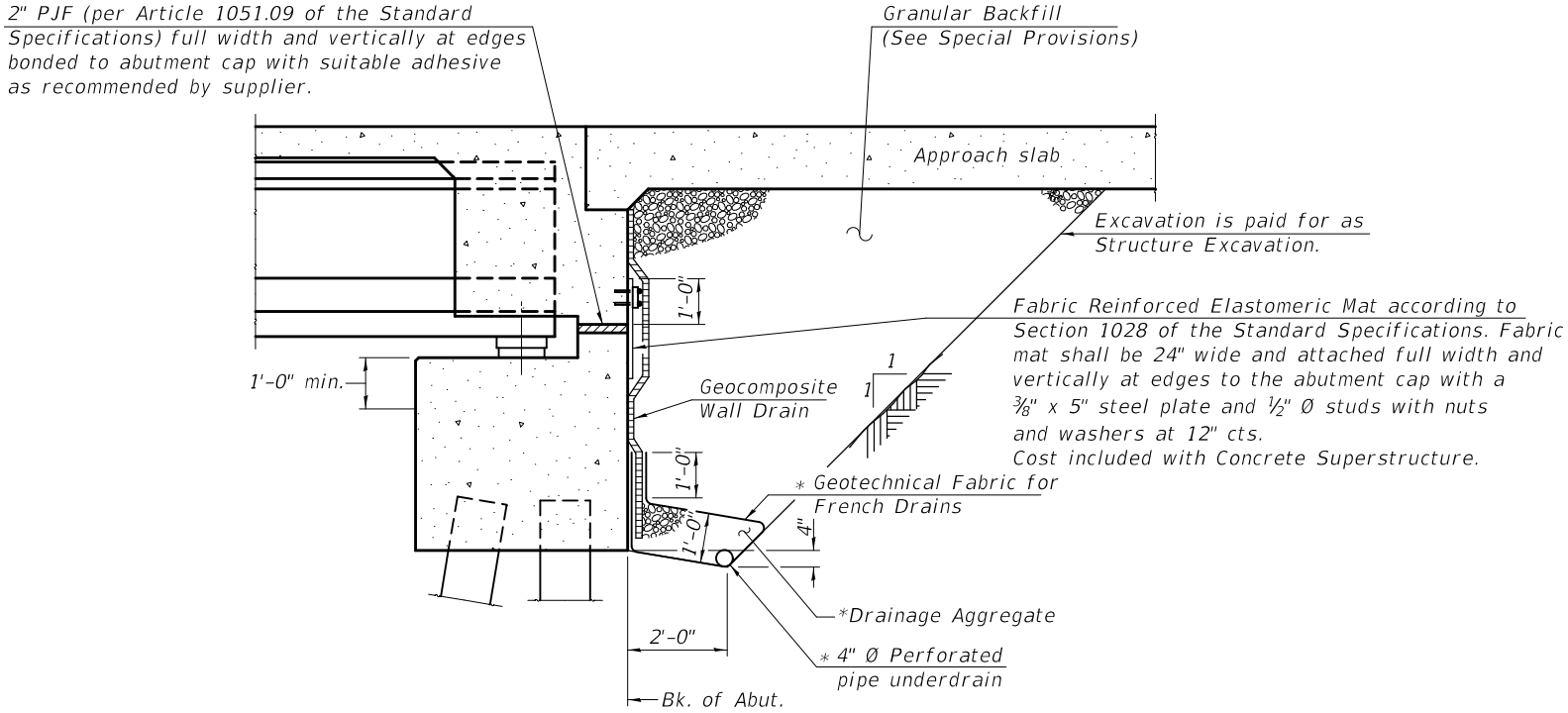
SECTION THRU PILE SUPPORTED
STUB ABUTMENT

(Horiz. dim. @ Rt. ∠'s)

*Included in the cost of Pipe Underdrains for Structures.
(See Special Provisions)

Note:
All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Cell Name: D00014
Descrip: Section thru semi-integral abutment for PPC beams



SECTION THRU SEMI-INTEGRAL ABUTMENT

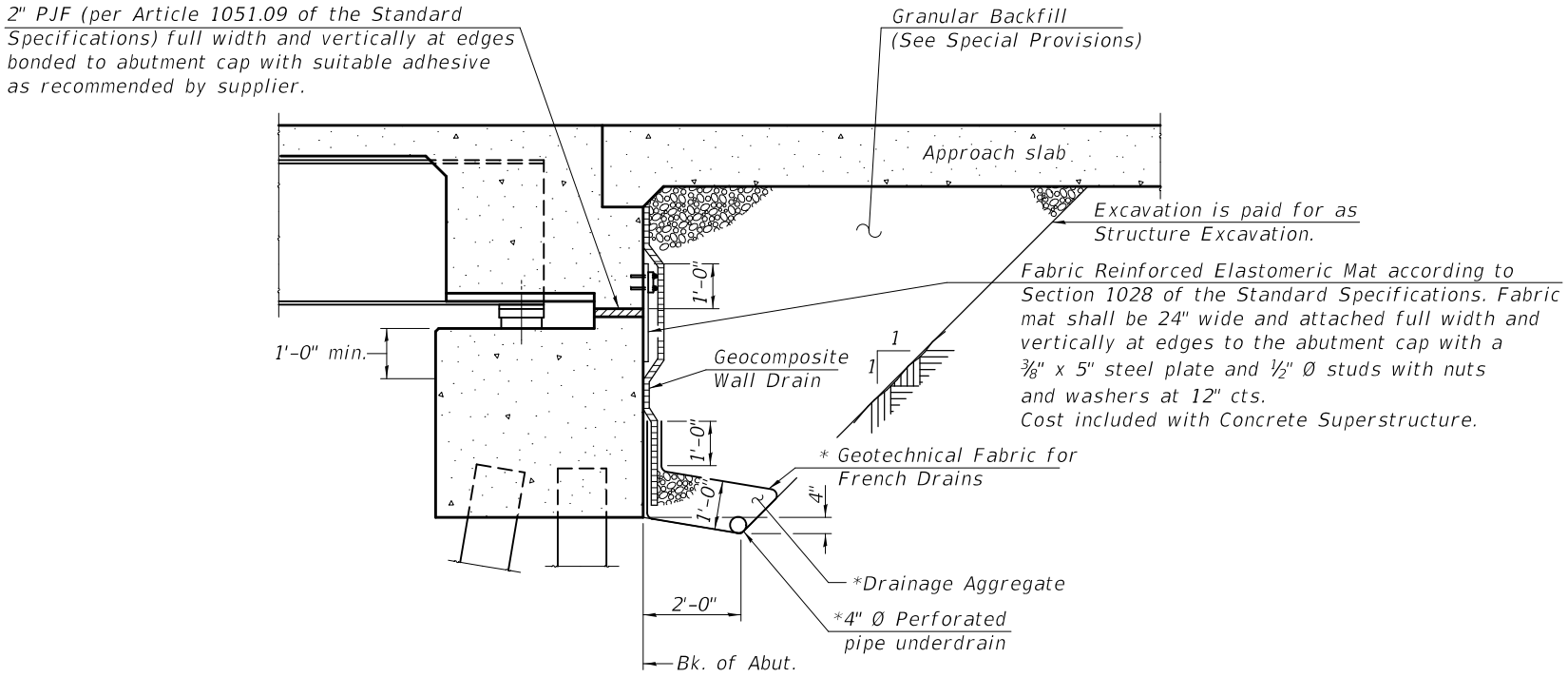
(Horiz. dim. @ Rt. ∠'s)

*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

Cell Name: D00015
Descrip: Section thru semi-integral abutment for steel beams



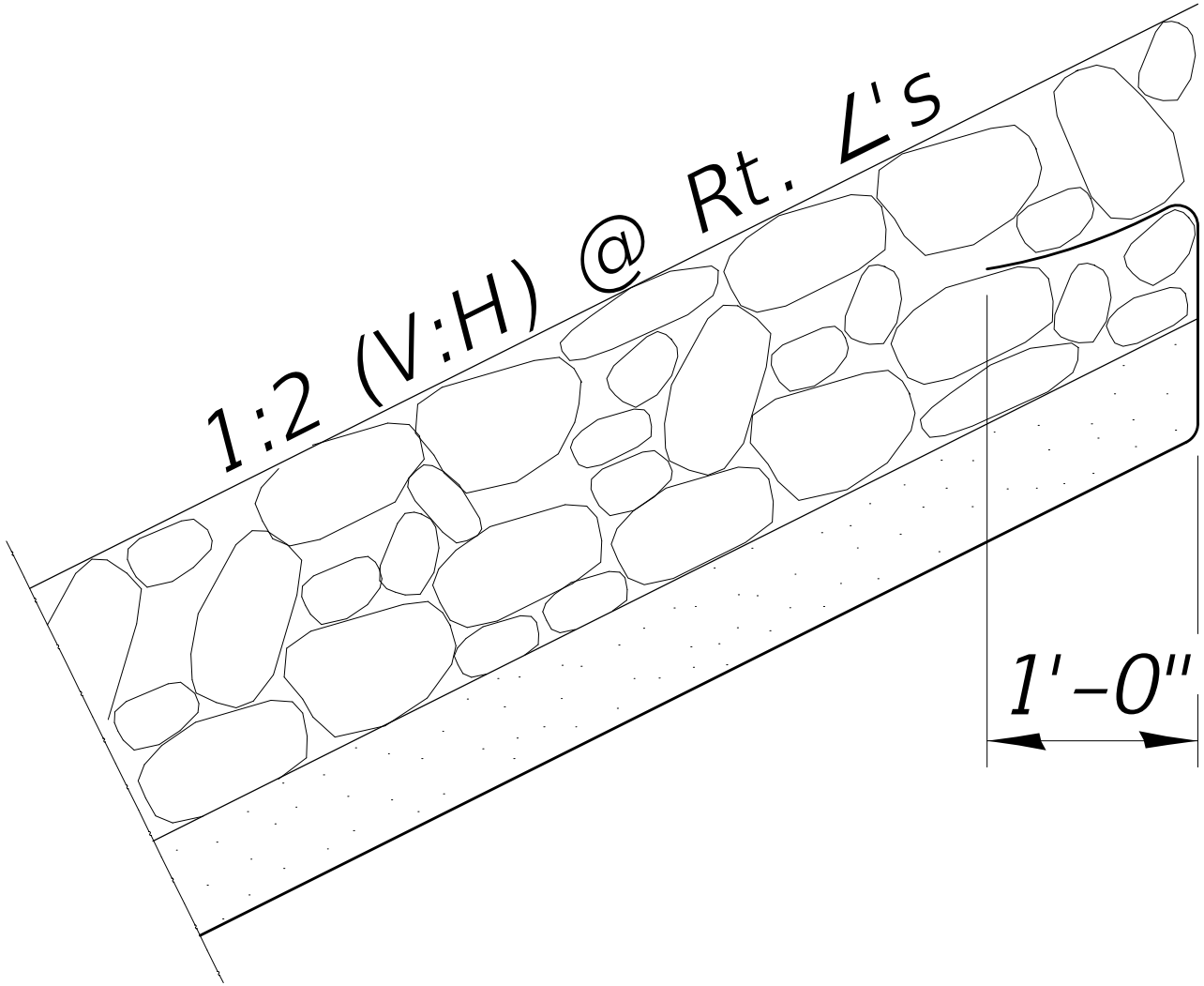
SECTION THRU SEMI-INTEGRAL ABUTMENT

(Horiz. dim. @ Rt. ∠'s)

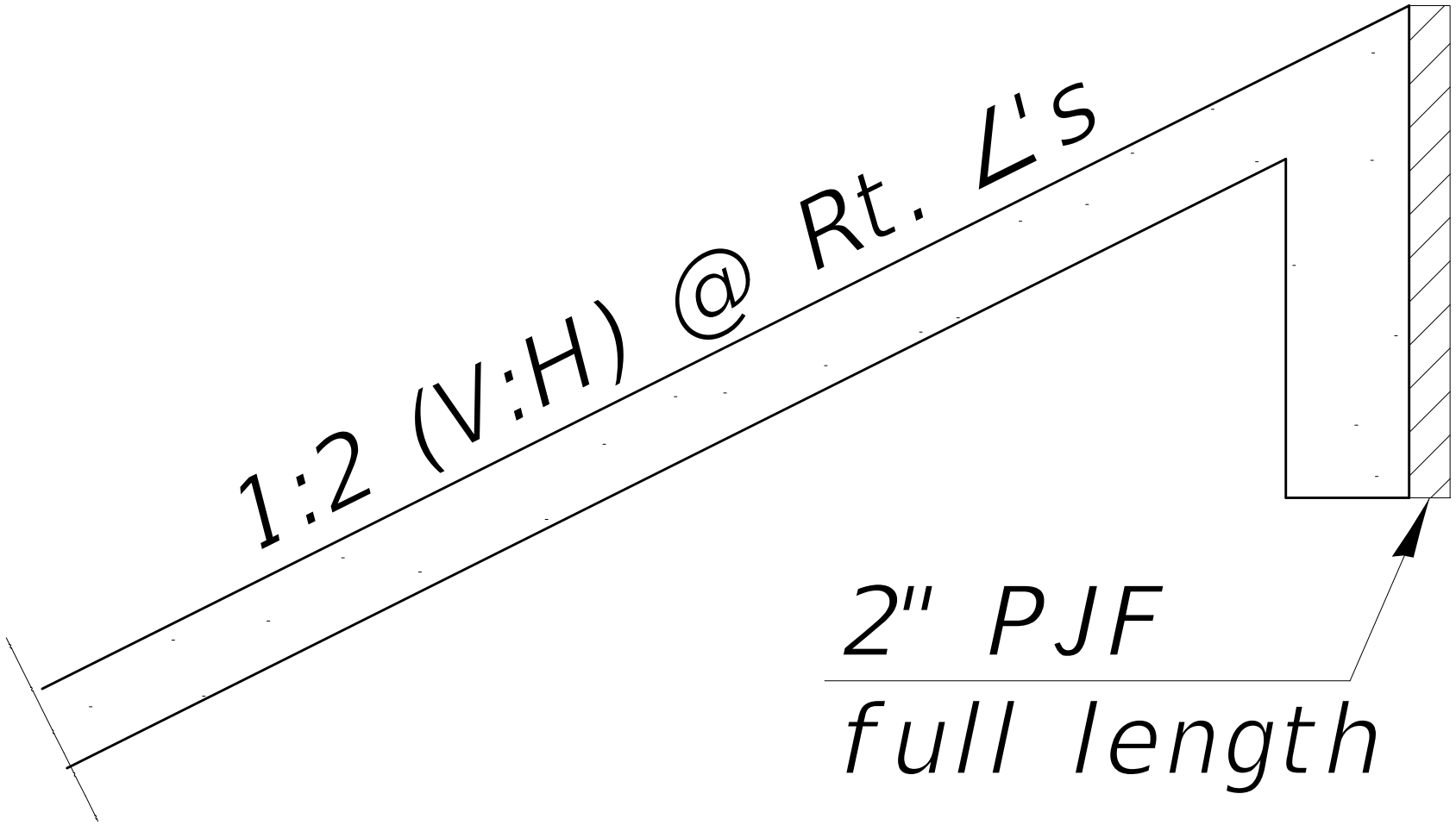
*Included in the cost of Pipe Underdrains for Structures. (See Special Provisions)

Note:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

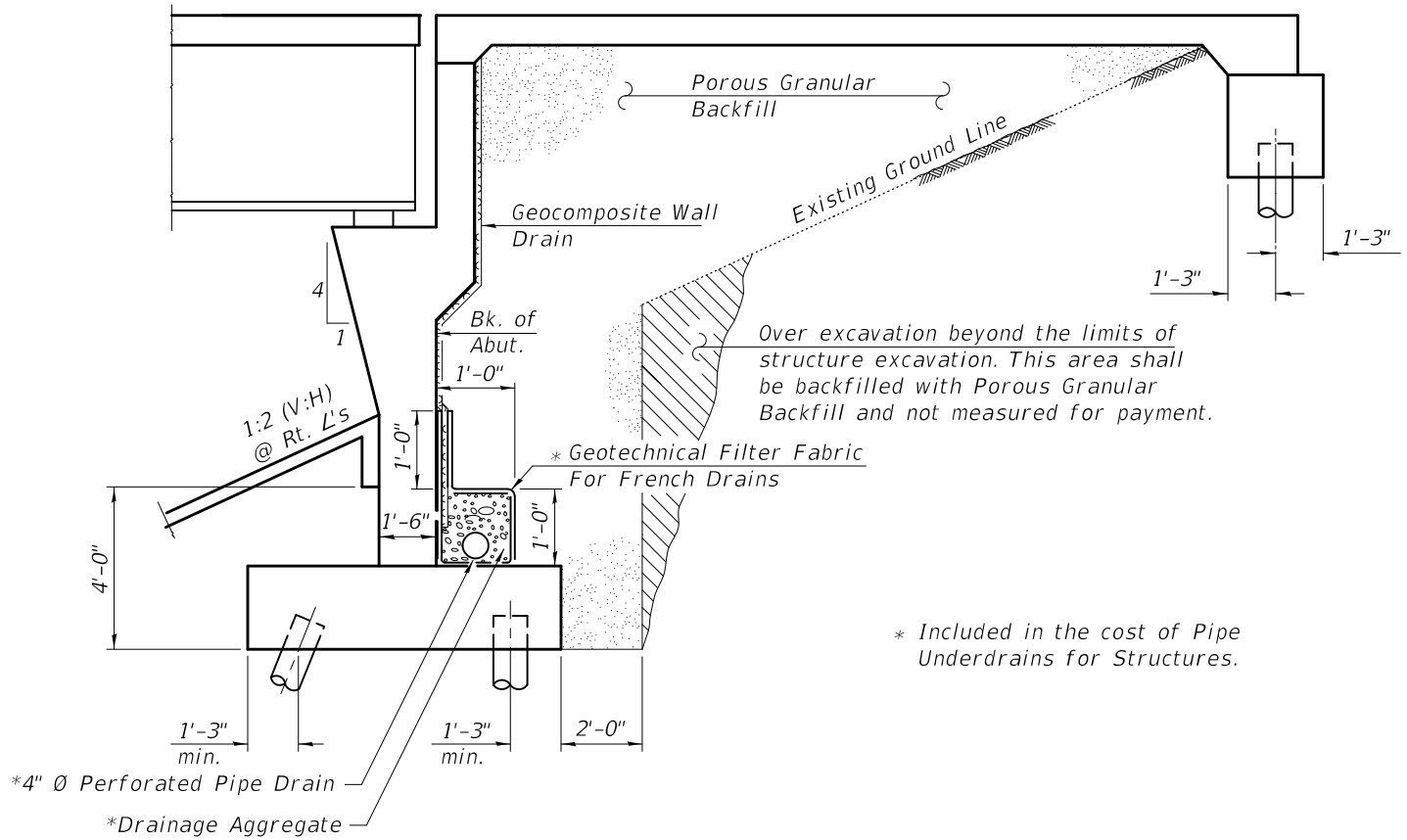
Cell Name: D00016
Descrip: Riprap for section thru abutments (use with D00010 through D00015)



Cell Name: D00017
Descrip: Slopewall for section thru abutments (use with D00010 through D00015)



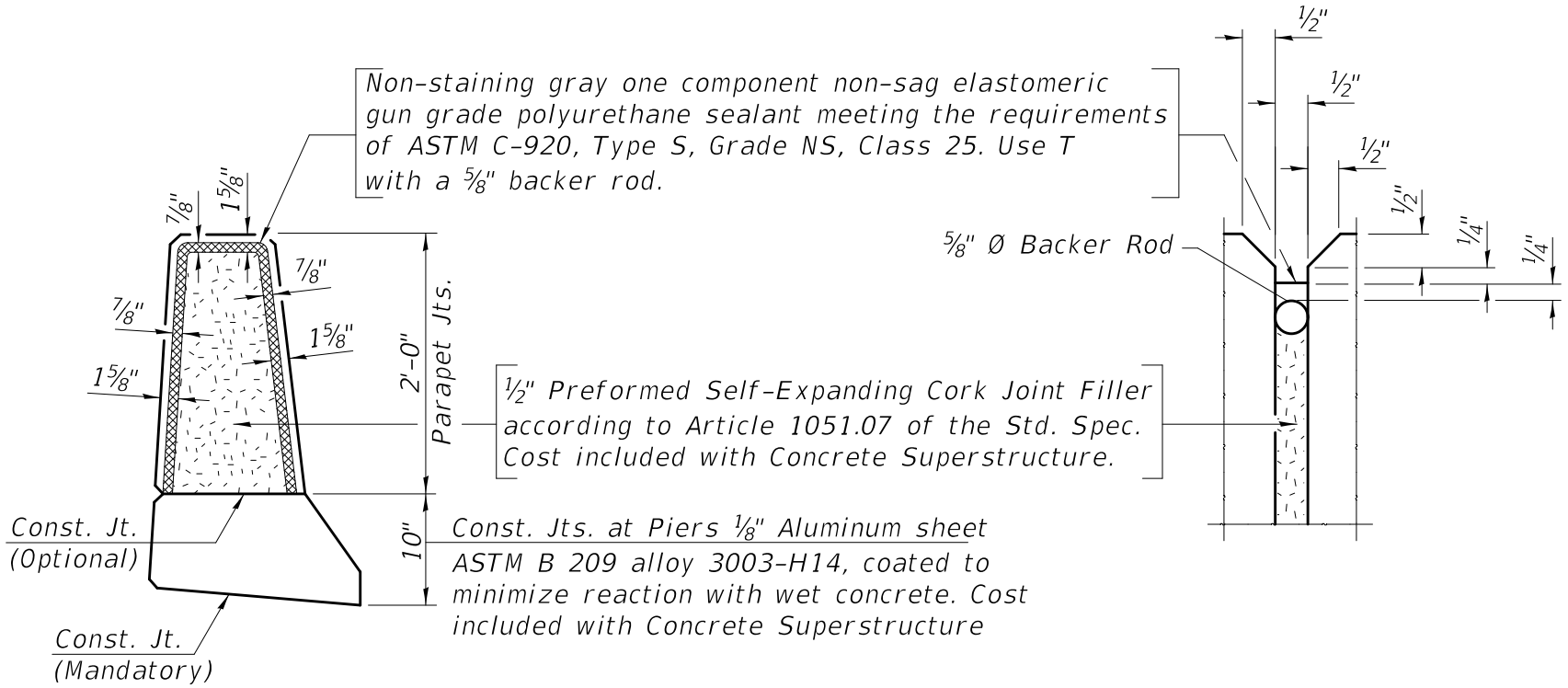
Cell Name: D00018
Descrip: Section Thru Filled Vaulted Abutment



SECTION THRU FILLED VAULTED ABUTMENT

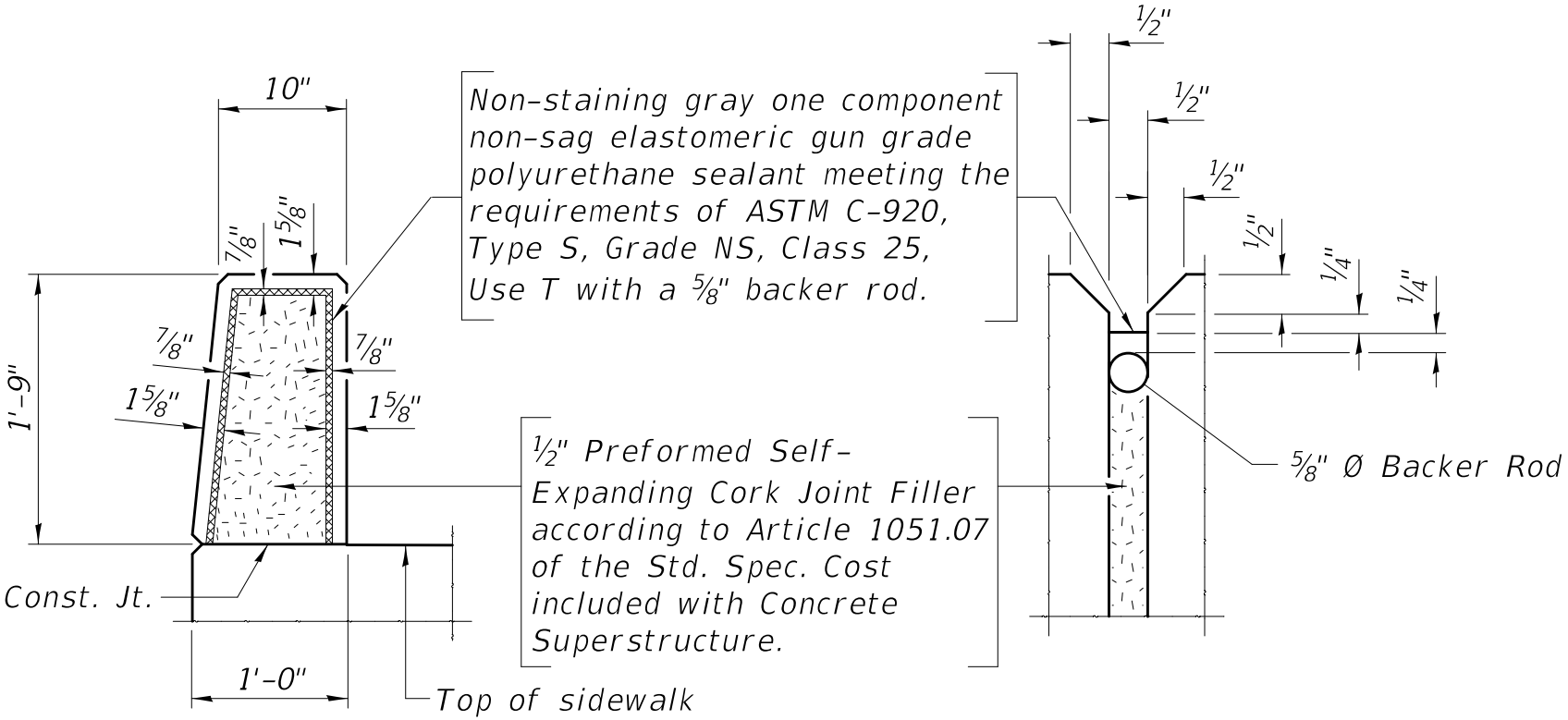
(Horiz. dim. @ Rt. L's)

Cell Name: D00020
Descrip: Parapet Joint Details



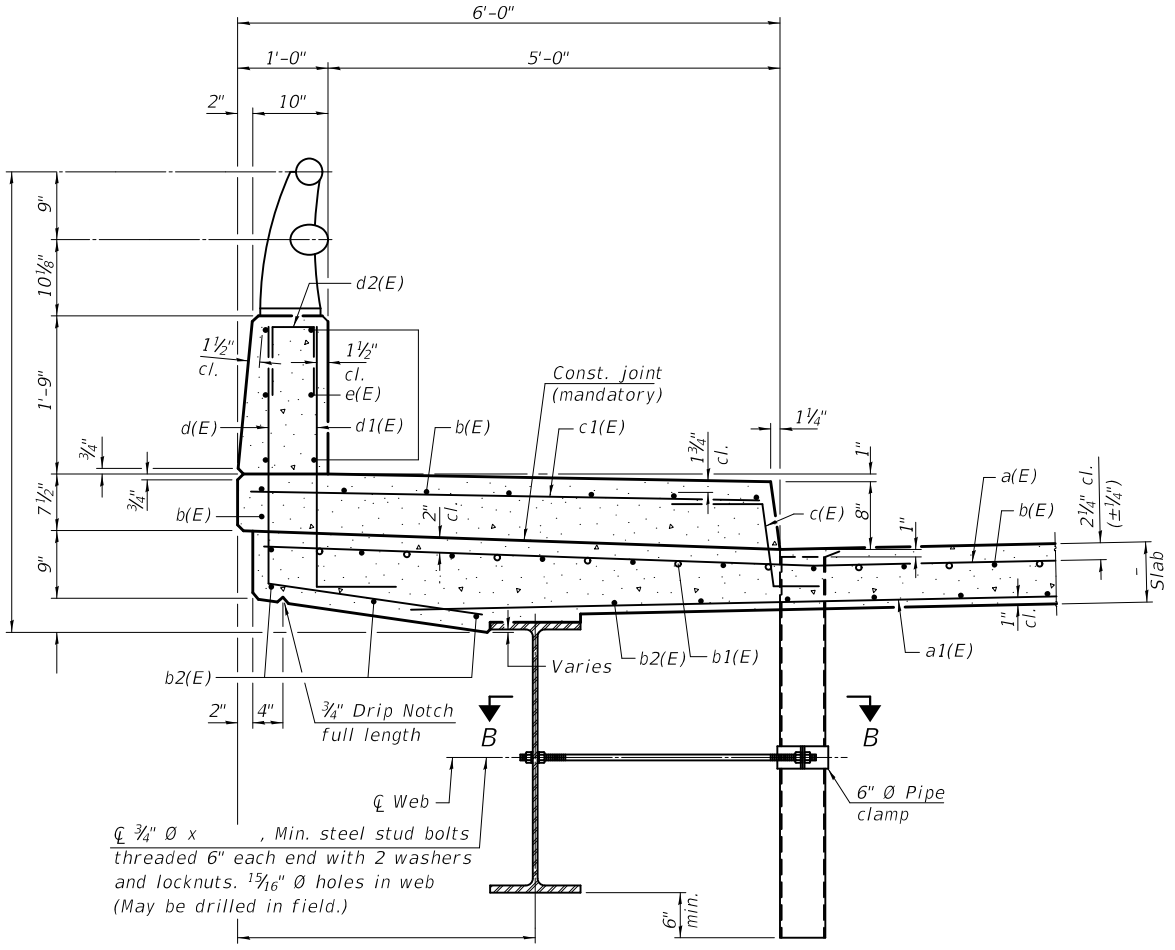
PARAPET JOINT DETAILS

Cell Name: D00021
Descrip: Parapet Joint at Sidewalk



PARAPET JOINT DETAILS

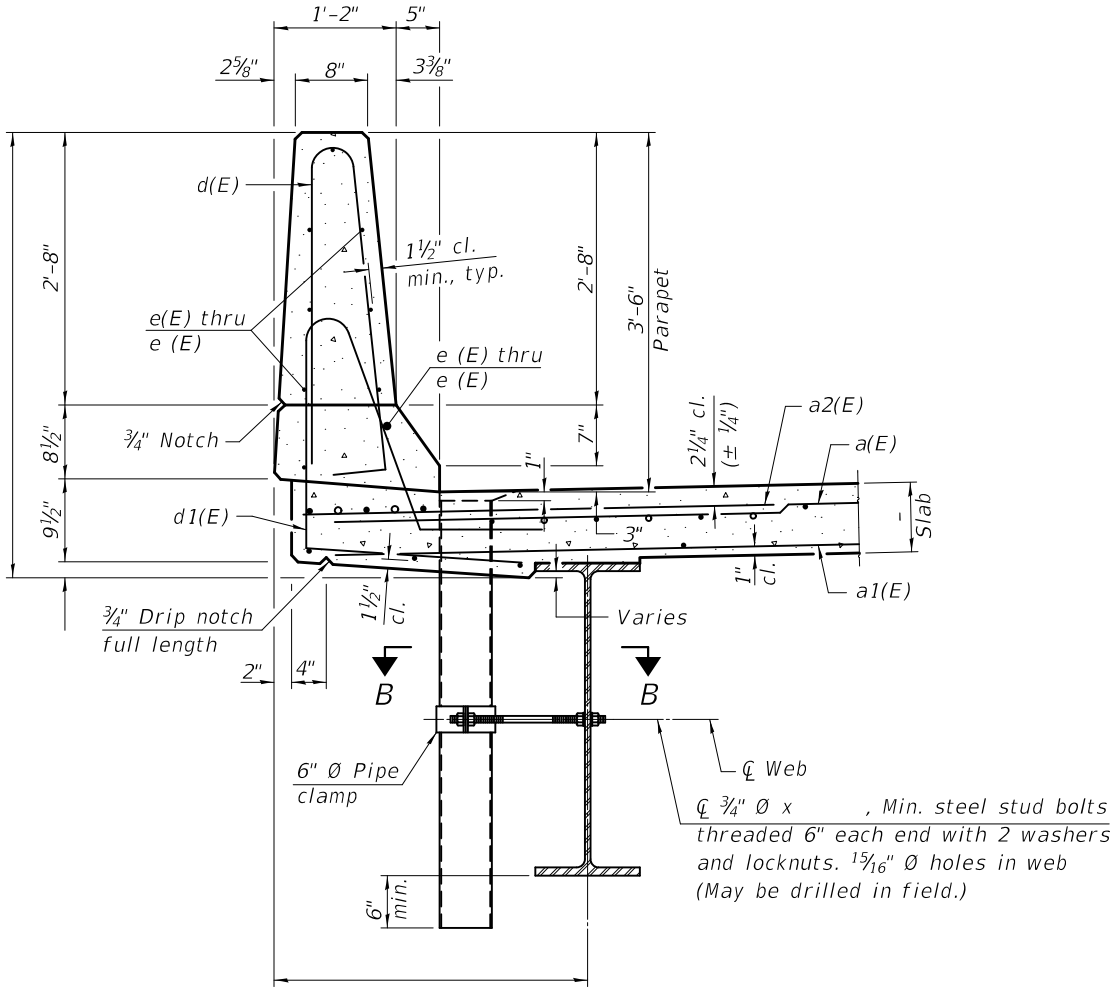
Cell Name: D00022
Descrip: Section thru sidewalk



SECTION THRU SIDEWALK

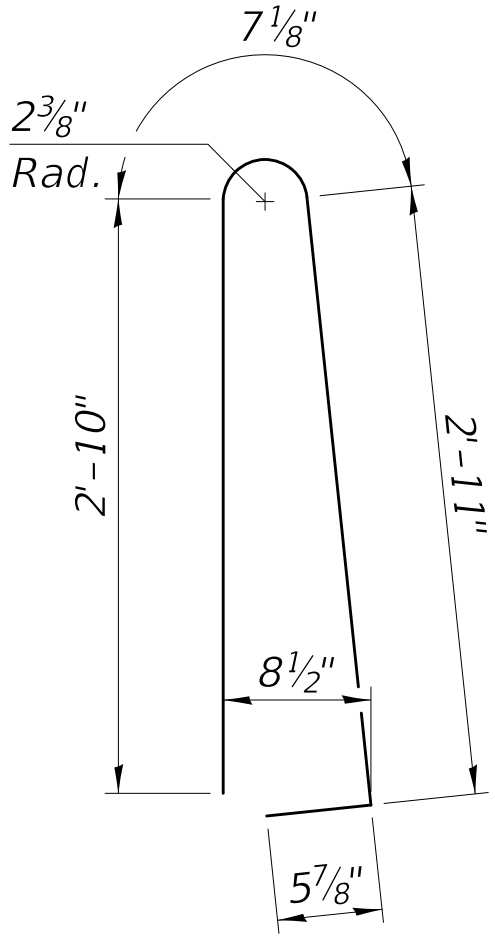
Cell Name: D00023

Descrip: 42" Section thru parapet for base sheet S-D or S-I-D



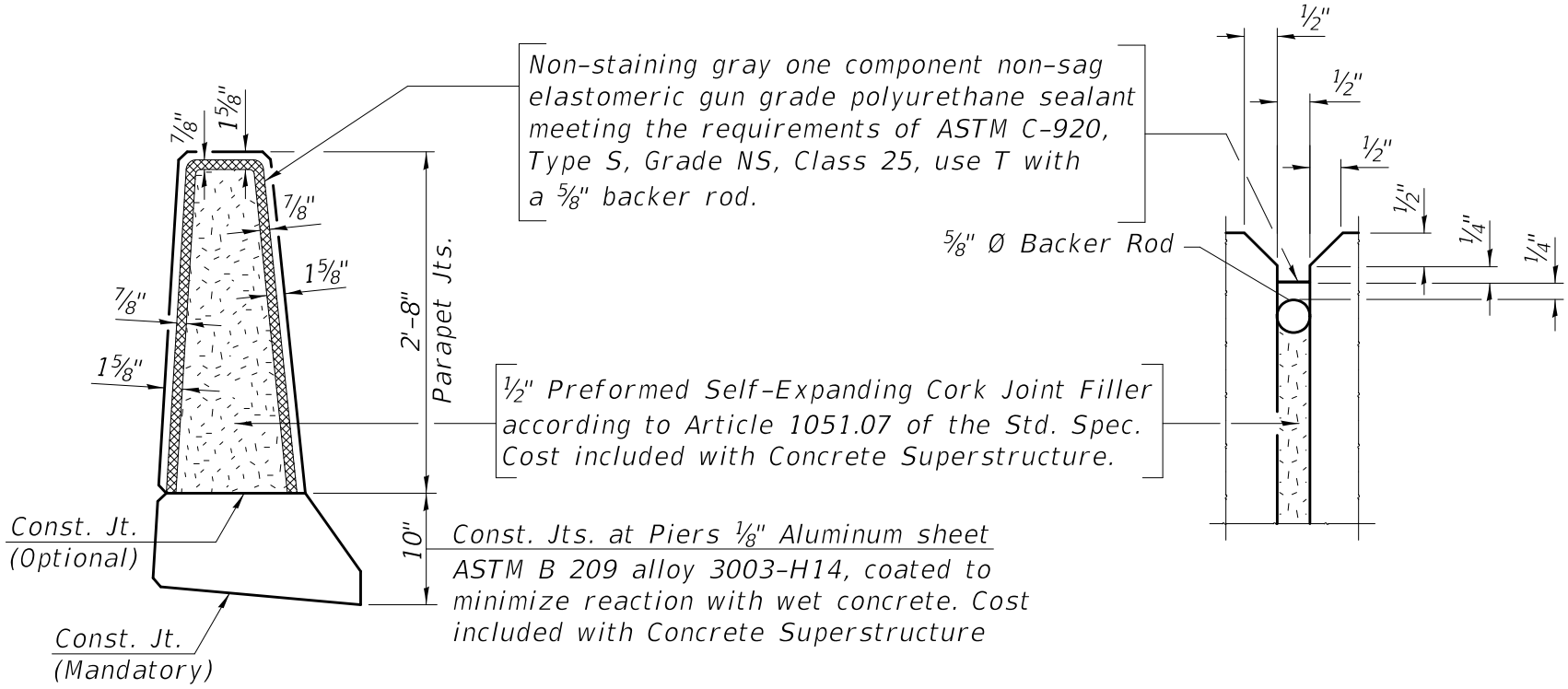
SECTION THRU PARAPET

Cell Name: D00024
Descrip: d(E) bar bending diagram for 42" parapet for base sheet S-D or S-I-D



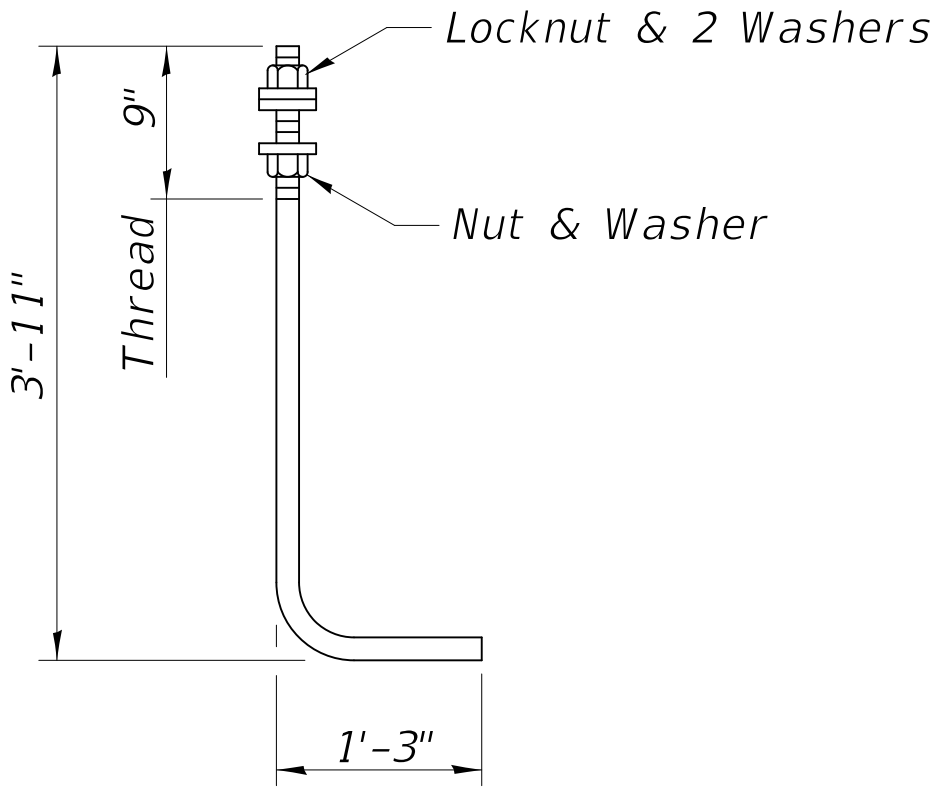
BAR d(E)

Cell Name: D00025
Descrip: 42" parapet joint details for base sheet S-D or S-I-D



PARAPET JOINT DETAILS

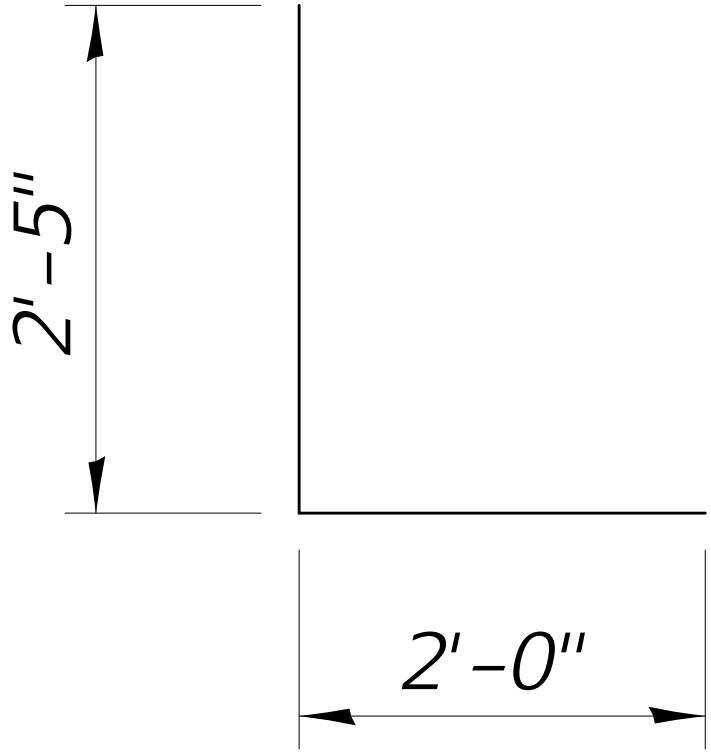
Cell Name: D00026
Descrip: Anchor rod for light pole mounted on parapet



ANCHOR ROD

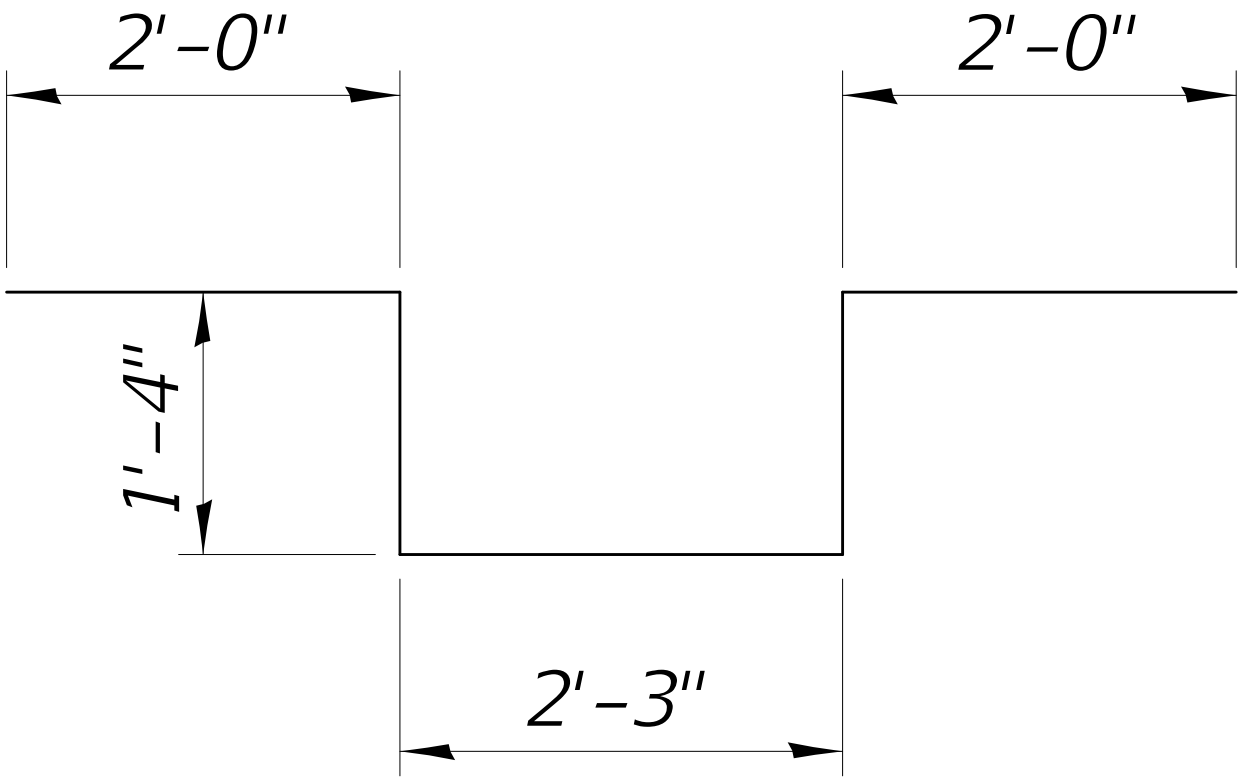
Diameter as specified for light poles.
(ASTM F 1554 Grade 105)

Cell Name: D00027
Descrip: d2(E) bar bending diagram for parapet with light pole



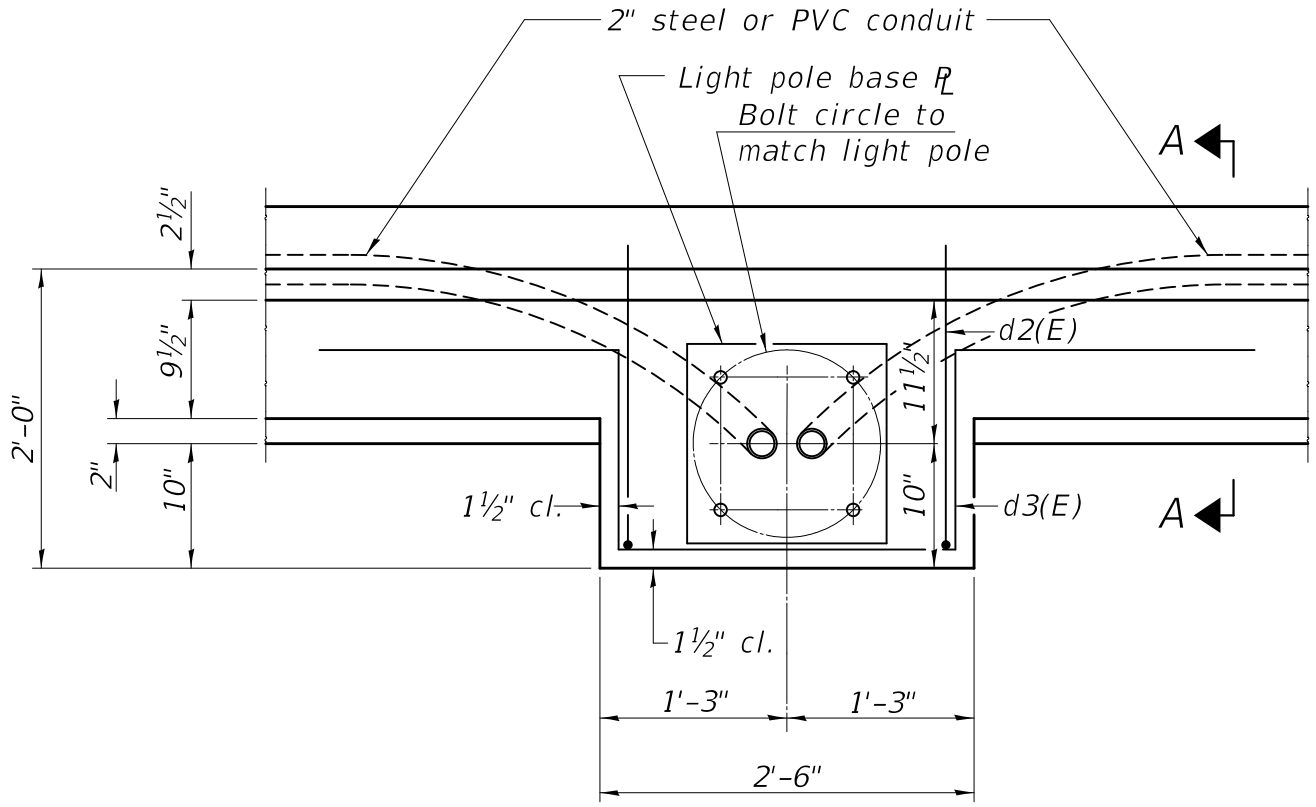
BAR d2(E)

Cell Name: D00028
Descrip: d3(E) bar bending diagram for parapet with light pole



BAR d3(E)

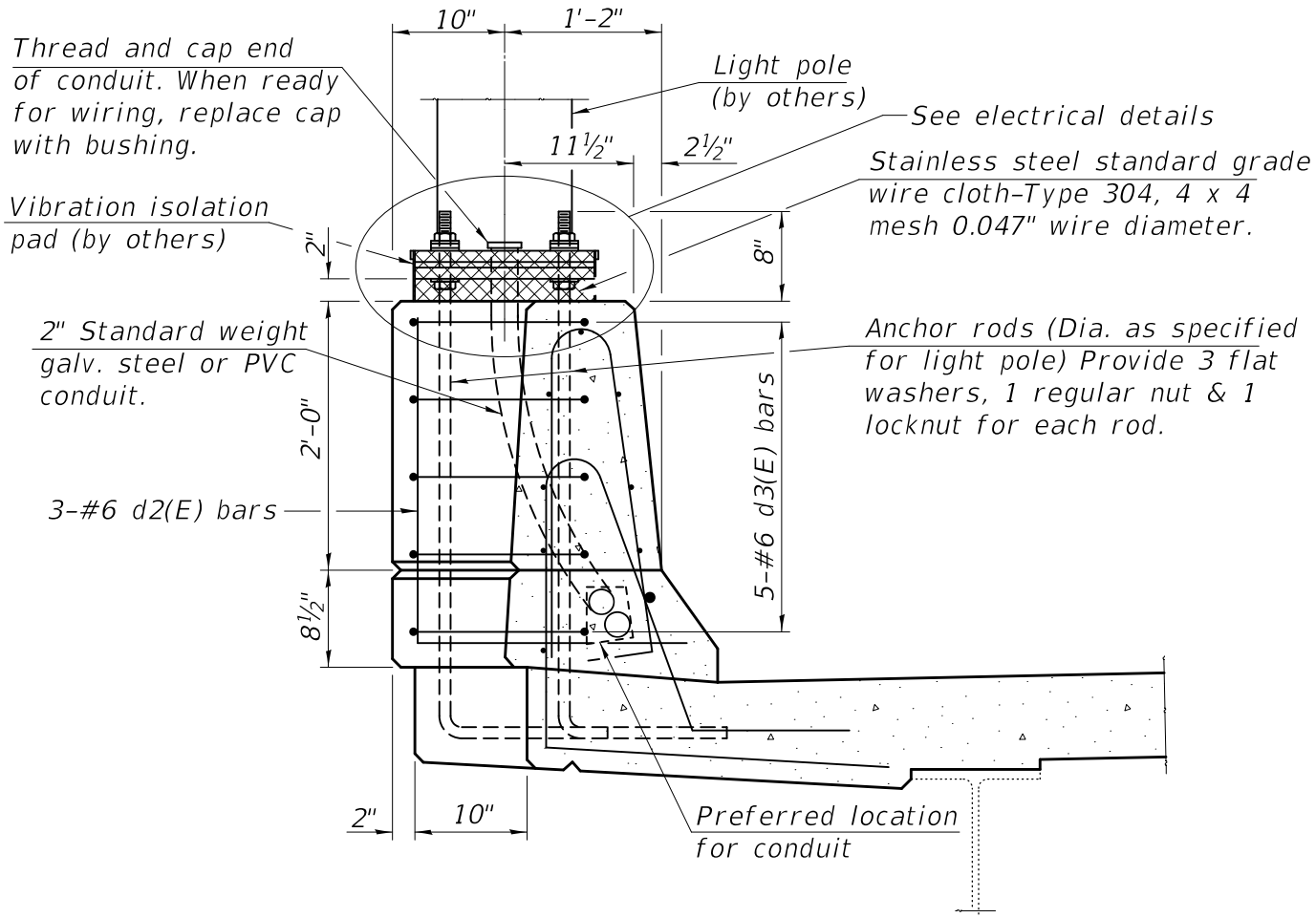
Cell Name: D00029
Descrip: Plan view of parapet with light pole, conduit inside parapet



PLAN

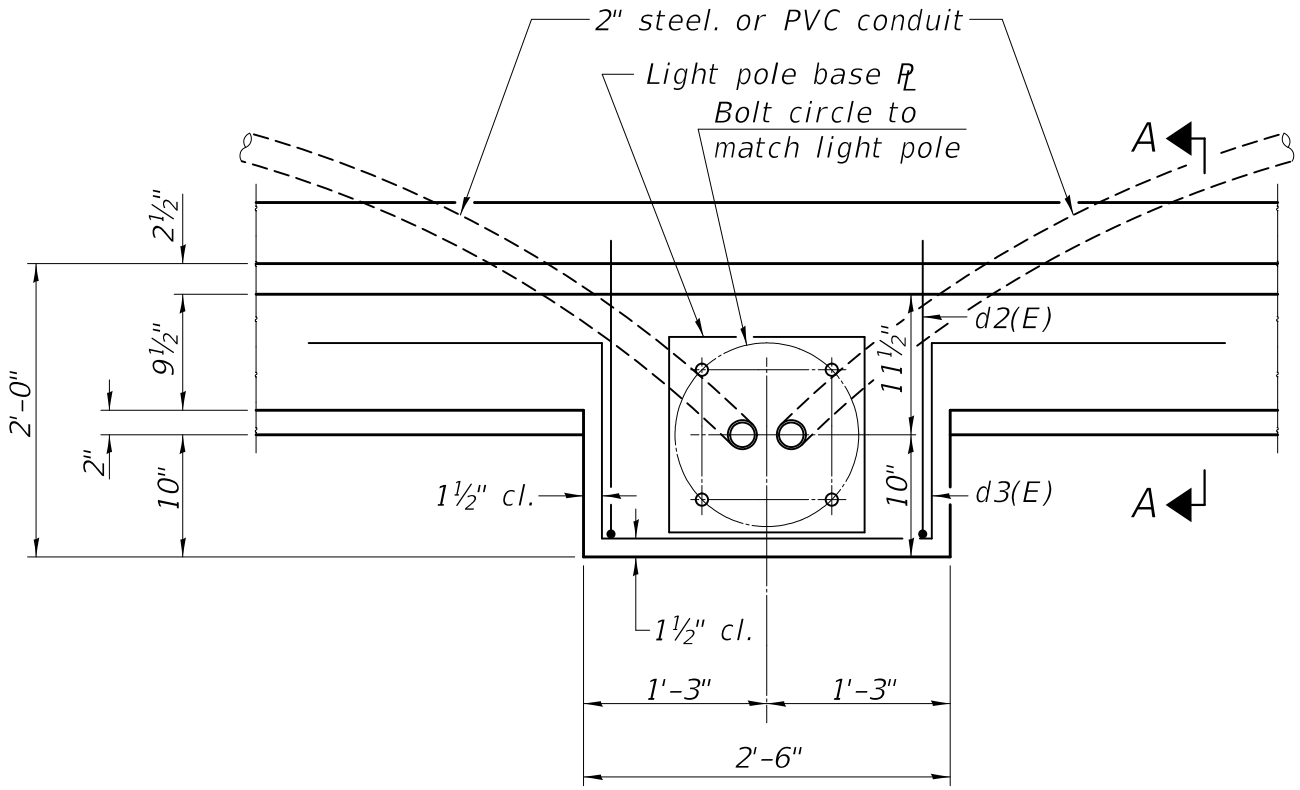
Note:
Cost of anchor rods and conduit is included with Concrete Superstructure.

Cell Name: D00030
Descrip: Section A–A of parapet with light pole, conduit inside parapet



SECTION A–A

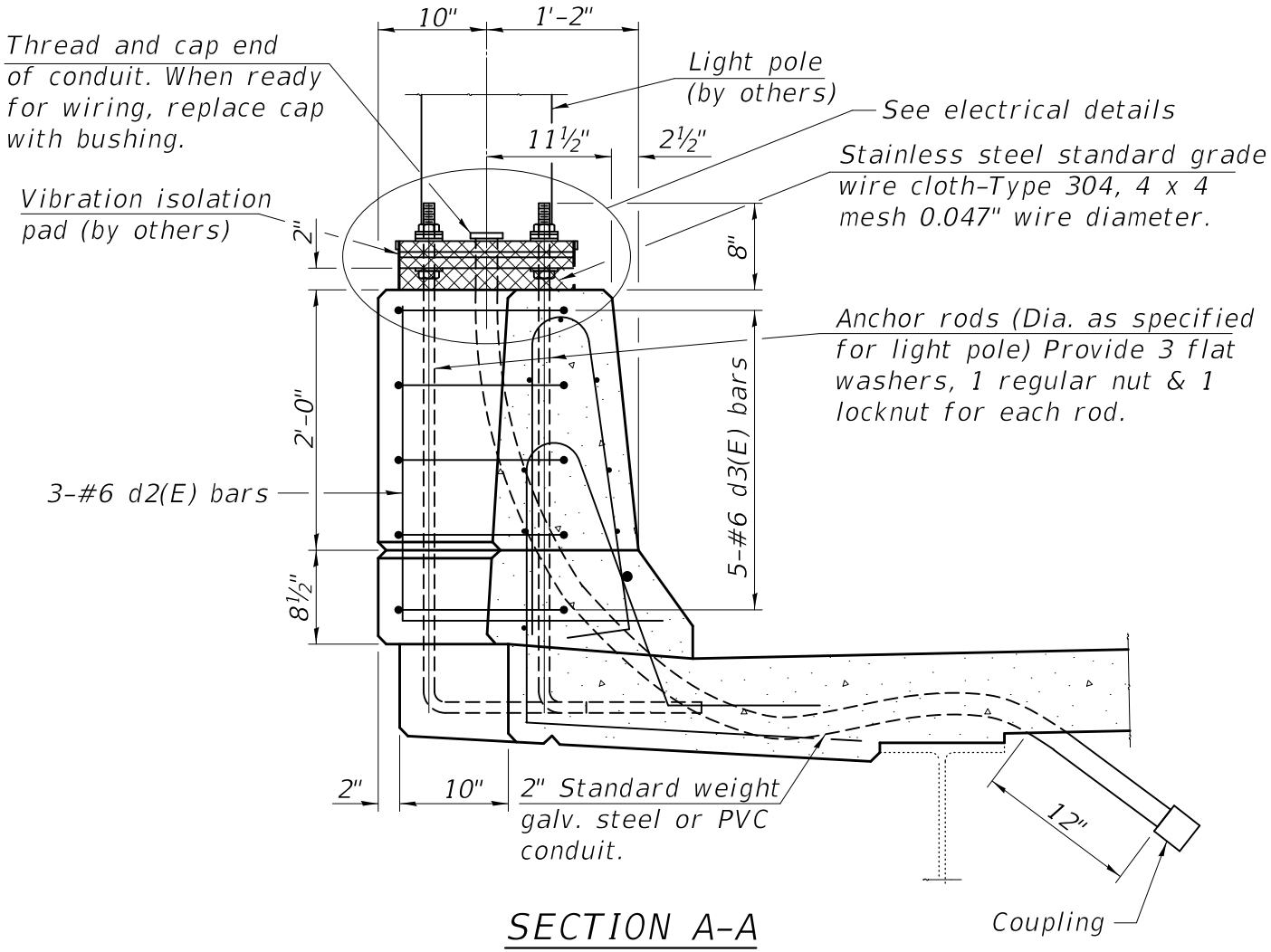
Cell Name: D00031
Descrip: Plan view of parapet with light pole, conduit outside parapet



PLAN

Note:
Cost of anchor rods and conduit is included with Concrete Superstructure.

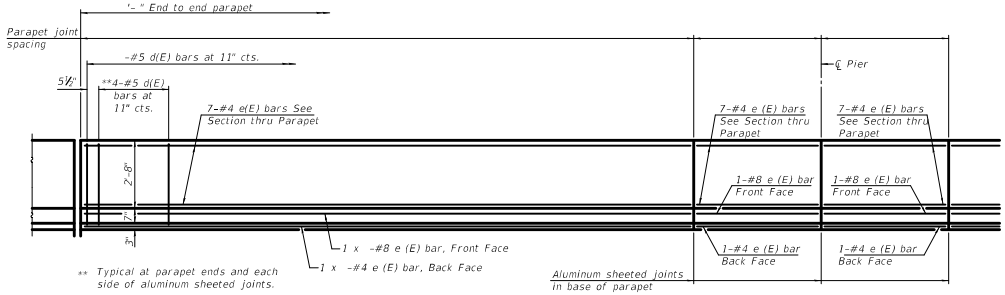
Cell Name: D00032
Descrip: Section A–A of parapet with light pole, conduit outside parapet



SECTION A–A

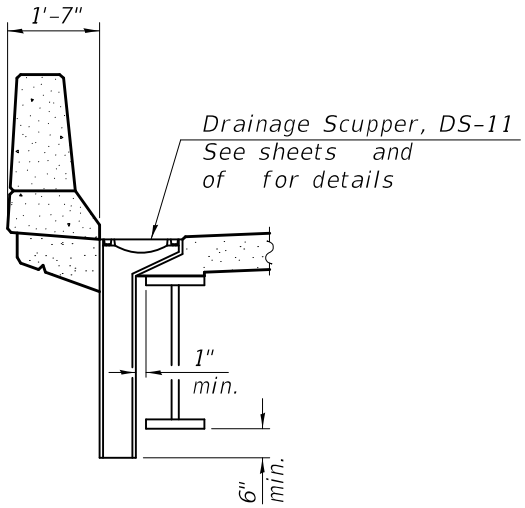
Cell Name: D00033

Descrip: Inside Elevation of 42" Parapet for superstructure detail sheet

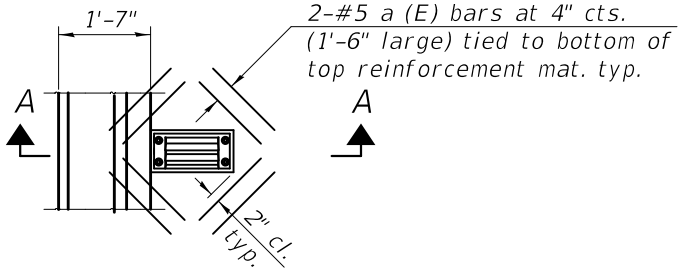


INSIDE ELEVATION OF PARAPET

Cell Name: D00040
Descrip: Drainage Scupper, DS-11 details, left drain



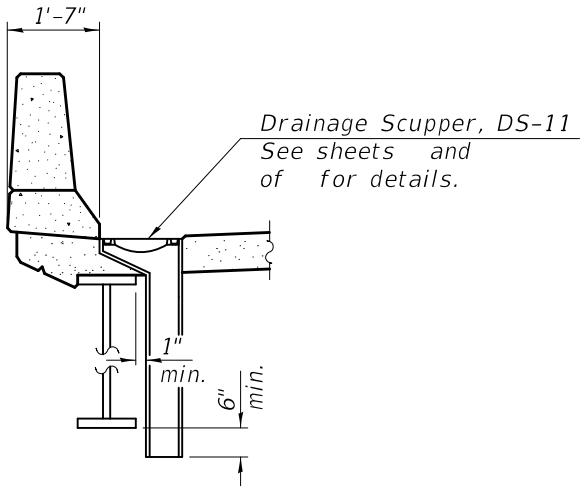
SECTION A-A



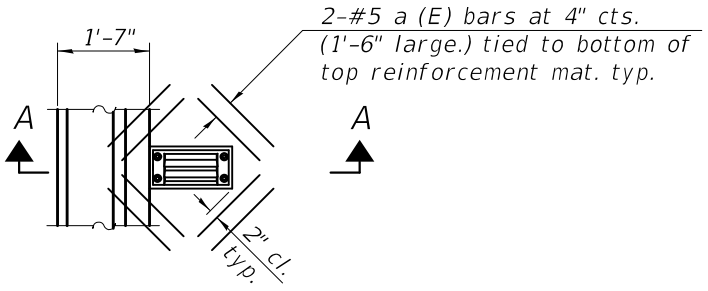
PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

Cell Name: D00041
Descrip: Drainage Scupper, DS-11 details, right drain



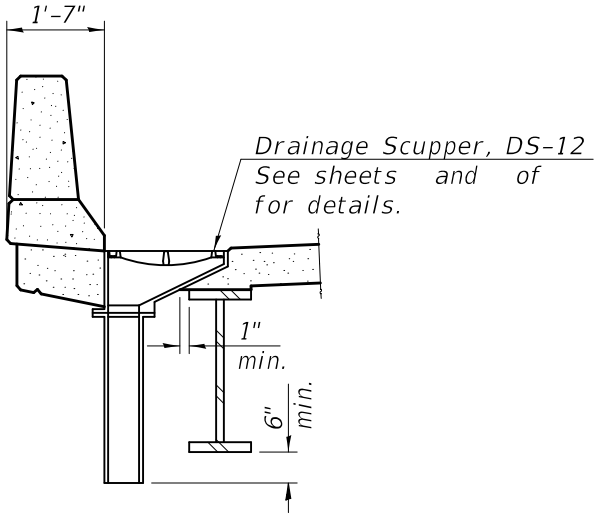
SECTION A-A



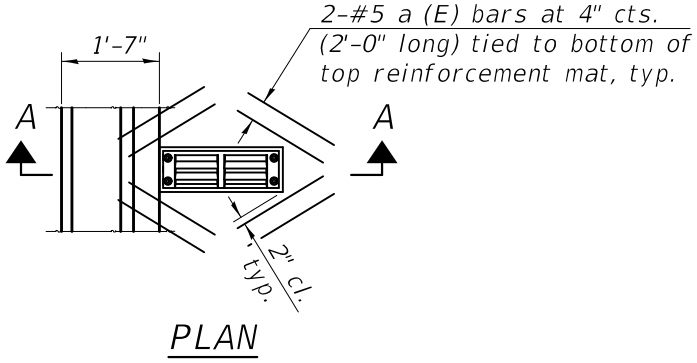
PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

Cell Name: D00042
Descrip: Drainage Scupper, DS-12 details, left drain



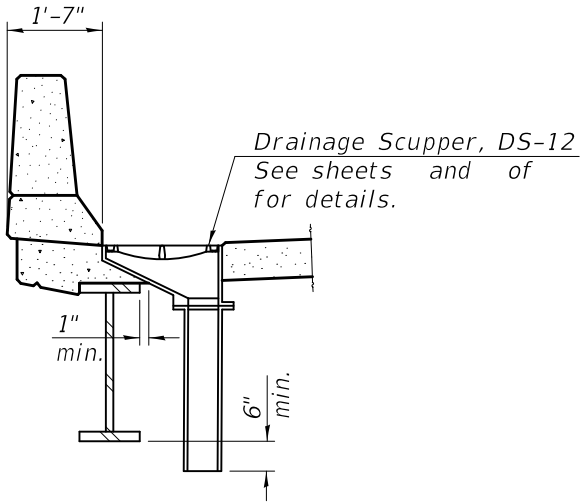
SECTION A-A



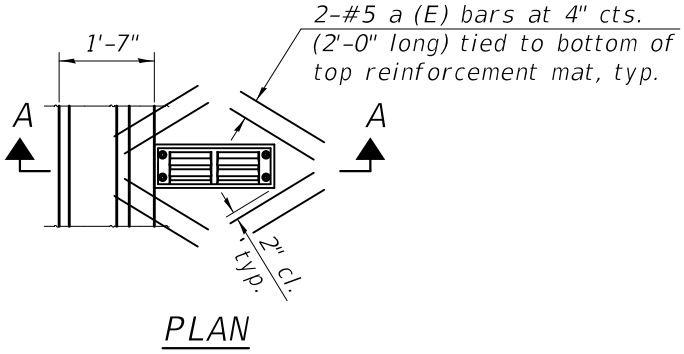
PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

Cell Name: D00043
Descrip: Drainage Scupper, DS-12 details, right drain



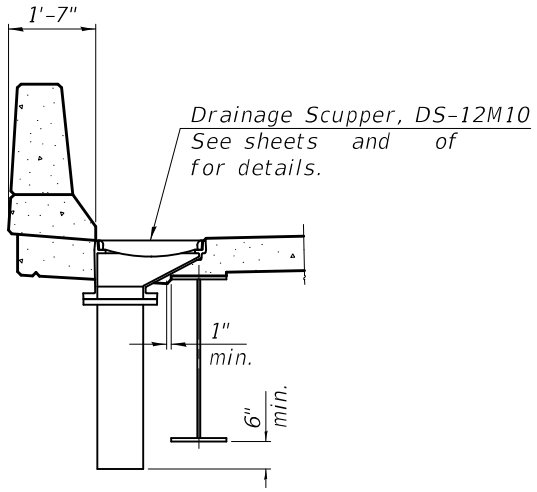
SECTION A-A



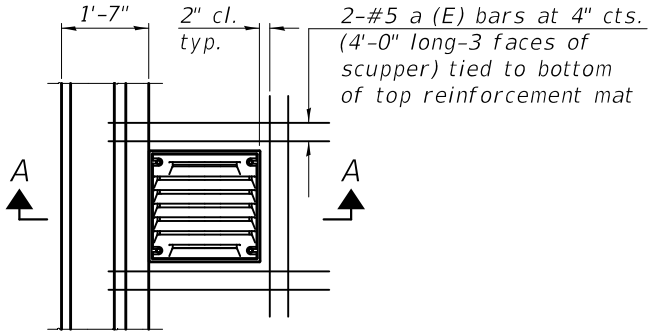
PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

Cell Name: D00044
Descrip: Drainage Scupper, DS-12M10 details



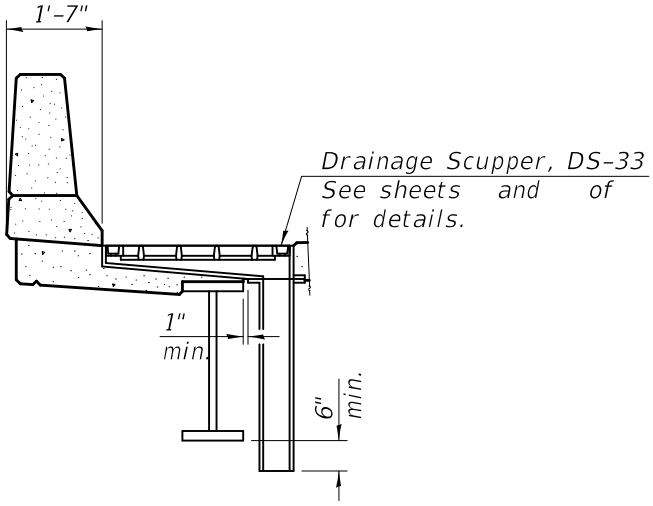
SECTION A-A



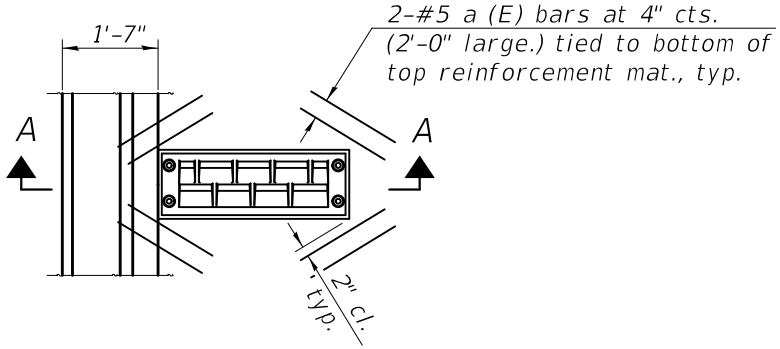
PLAN

Note:
Cut longitudinal reinforcement to clear drainage scuppers.

Cell Name: D00045
Descrip: Drainage Scupper, DS-33 details, right drain



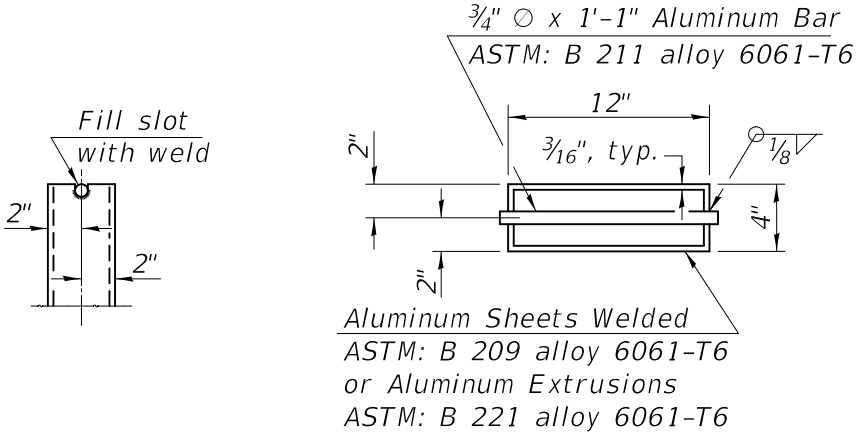
SECTION A-A



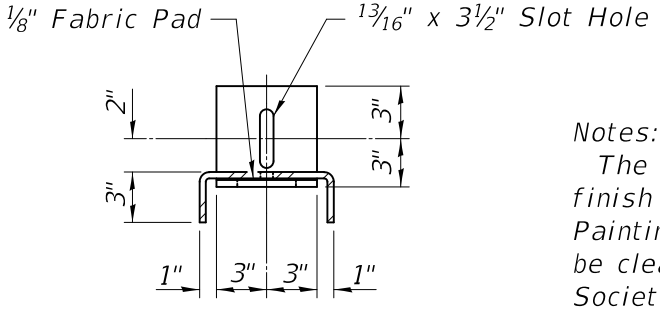
PLAN

Note: Cut longitudinal reinforcement to clear drainage scuppers.

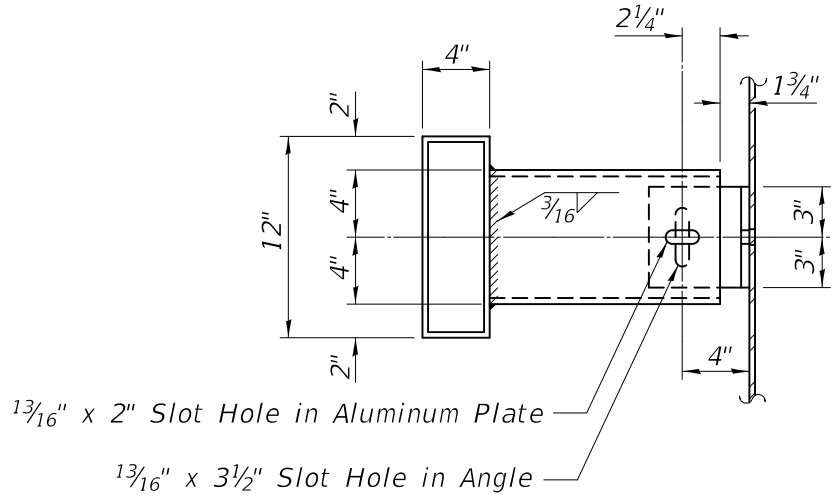
Cell Name: D00046
Descrip: 4 in x 12 in drain details



TOP PLAN



SECTION B-B

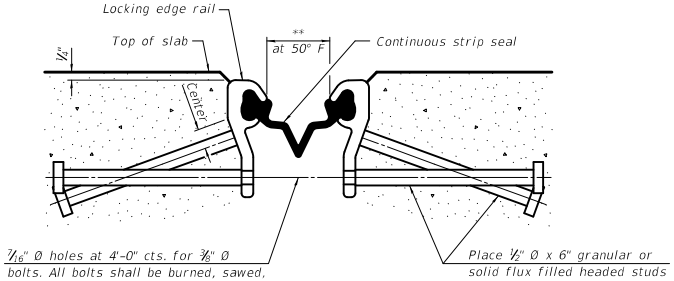


SECTION A-A

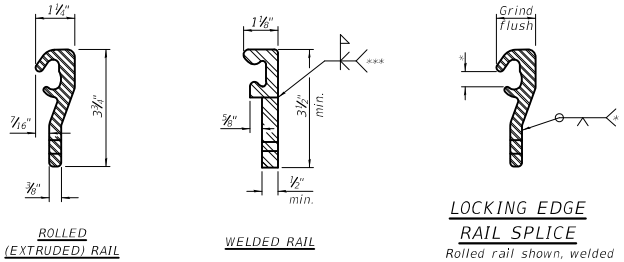
Notes:

The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drain shall be cleaned and given a washcoat pretreatment in accordance with Society of Protective Coatings Spec. SSPC-SP1 & SSPC Paint 27 prior to painting.

Cell Name: D00050
Descrip: Strip seal joint for deck beams with CWS



SECTION THRU STRIP SEAL JOINT
FOR OVERLAY OVER DECK BEAMS



ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAIL SPLICE
Rolled rail shown, welded rail similar.

LOCKING EDGE RAIL

* Omit weld at seal opening.
** The minimum dimension shall be 1½" for installation purposes.
*** Back gouge not required if complete joint penetration is verified by mock-up.

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". The configuration of the strip seal shall match the configuration of the Locking Edge Rails.

The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.

The inside of the Locking Edge Rail groove shall be free of weld residue.

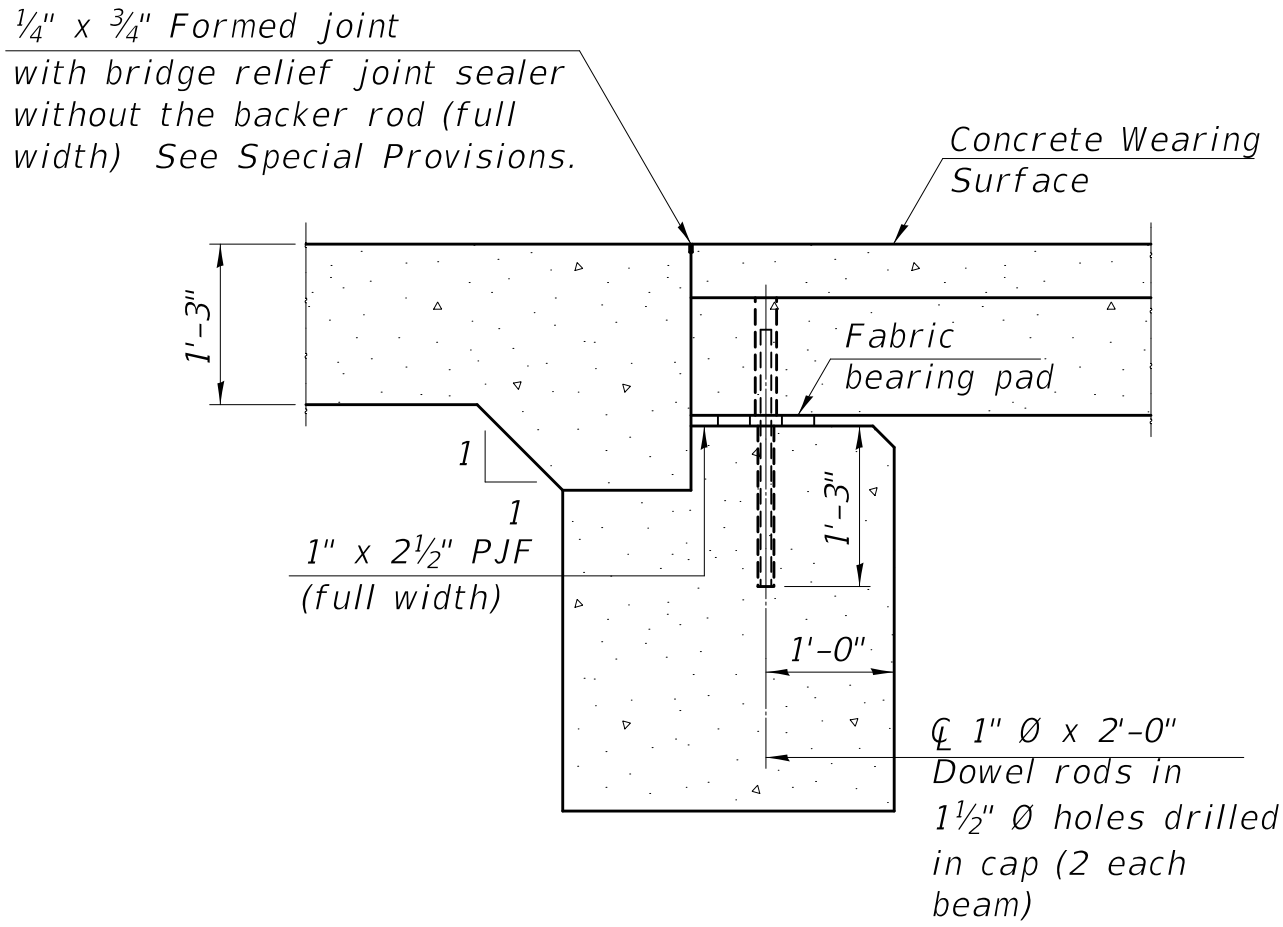
Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed.

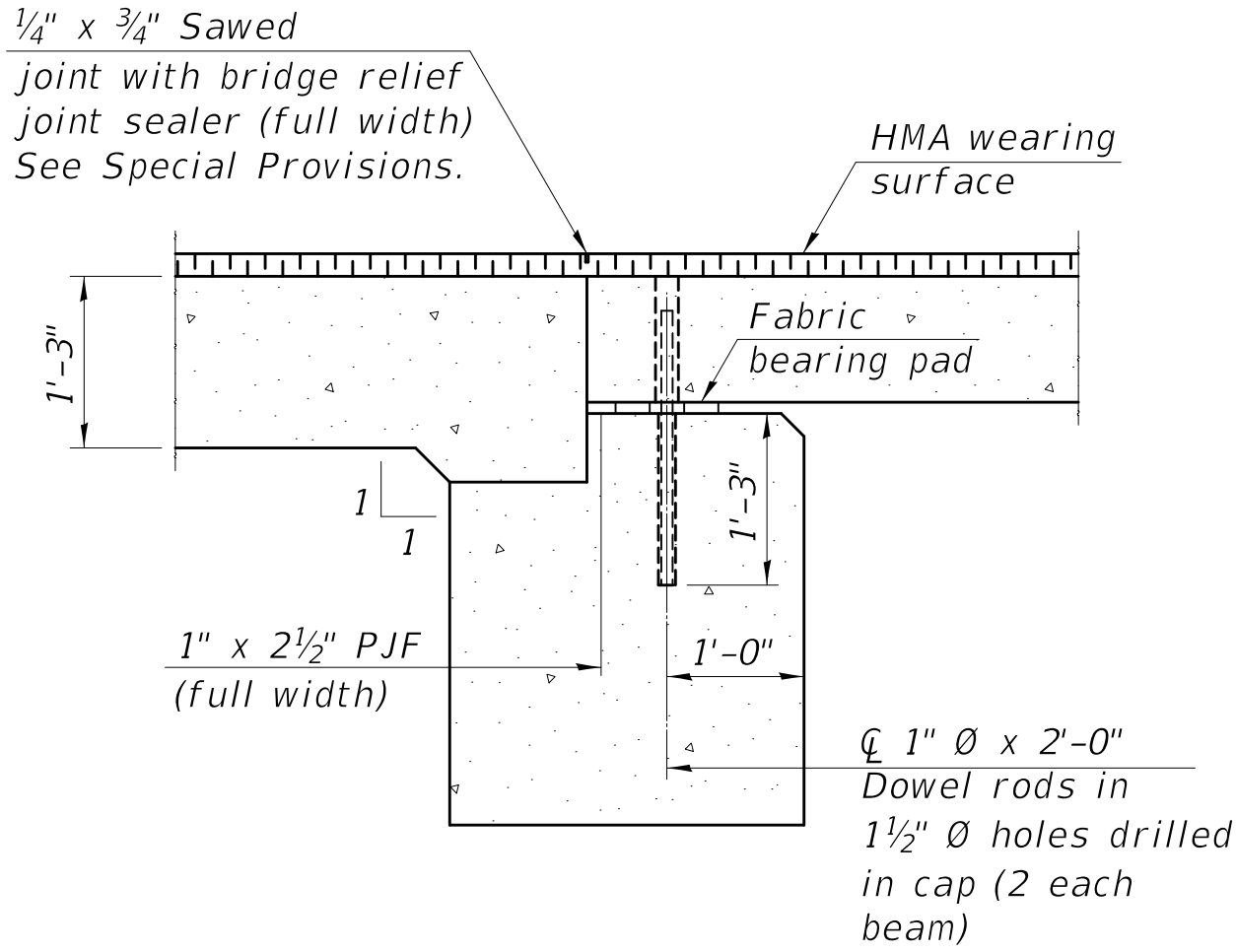
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant

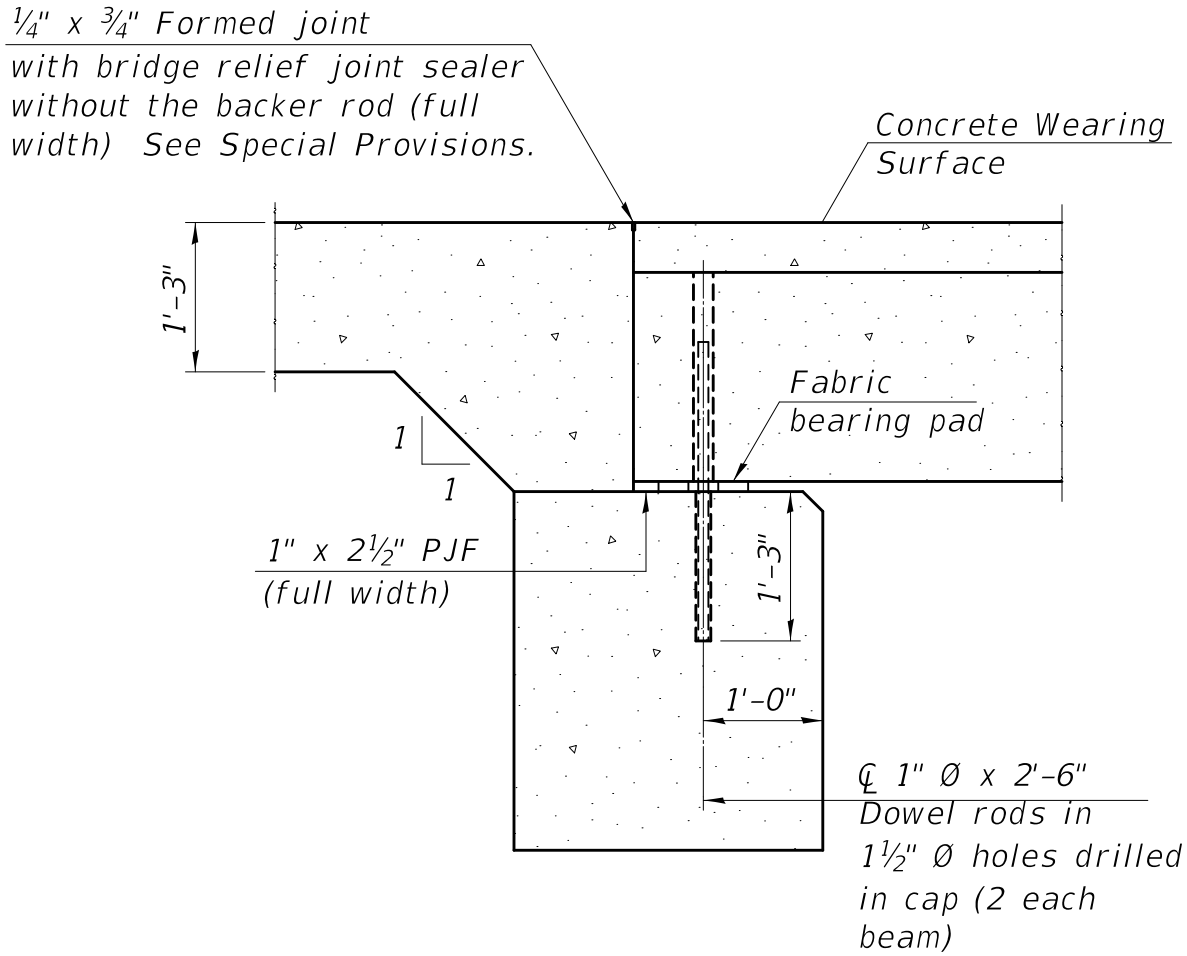
Cell Name: D00060
Descrip: Sect thru fixed abut for 11" PPC deck beam with conc. wearing surface and approach slab



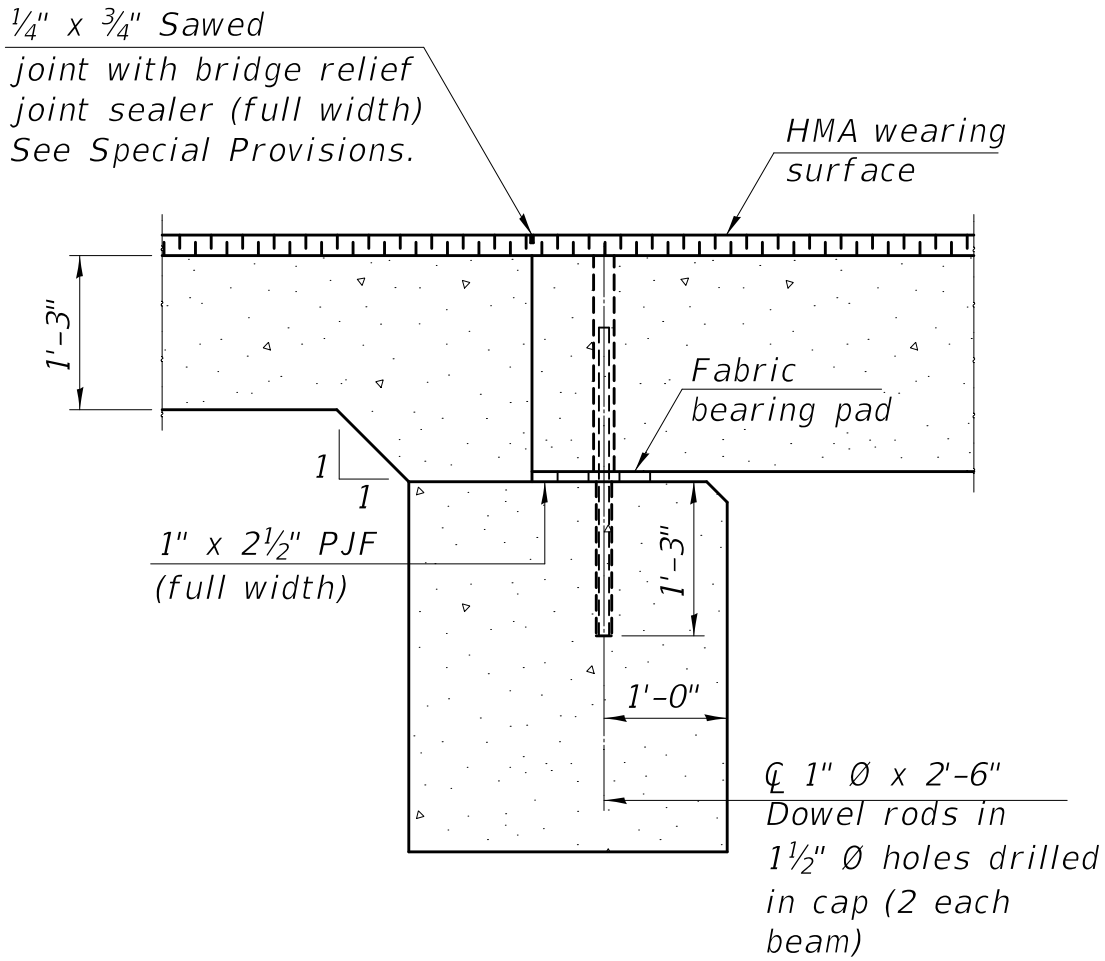
Cell Name: D00061
Descrip: Sect thru fixed abut. for 11" PPC deck beam with HMA wearing surface and approach slab



Cell Name: D00062
Descrip: Sect thru fixed abut. for 17" and 21" PPC deck beams with conc. wearing surface and approach slab

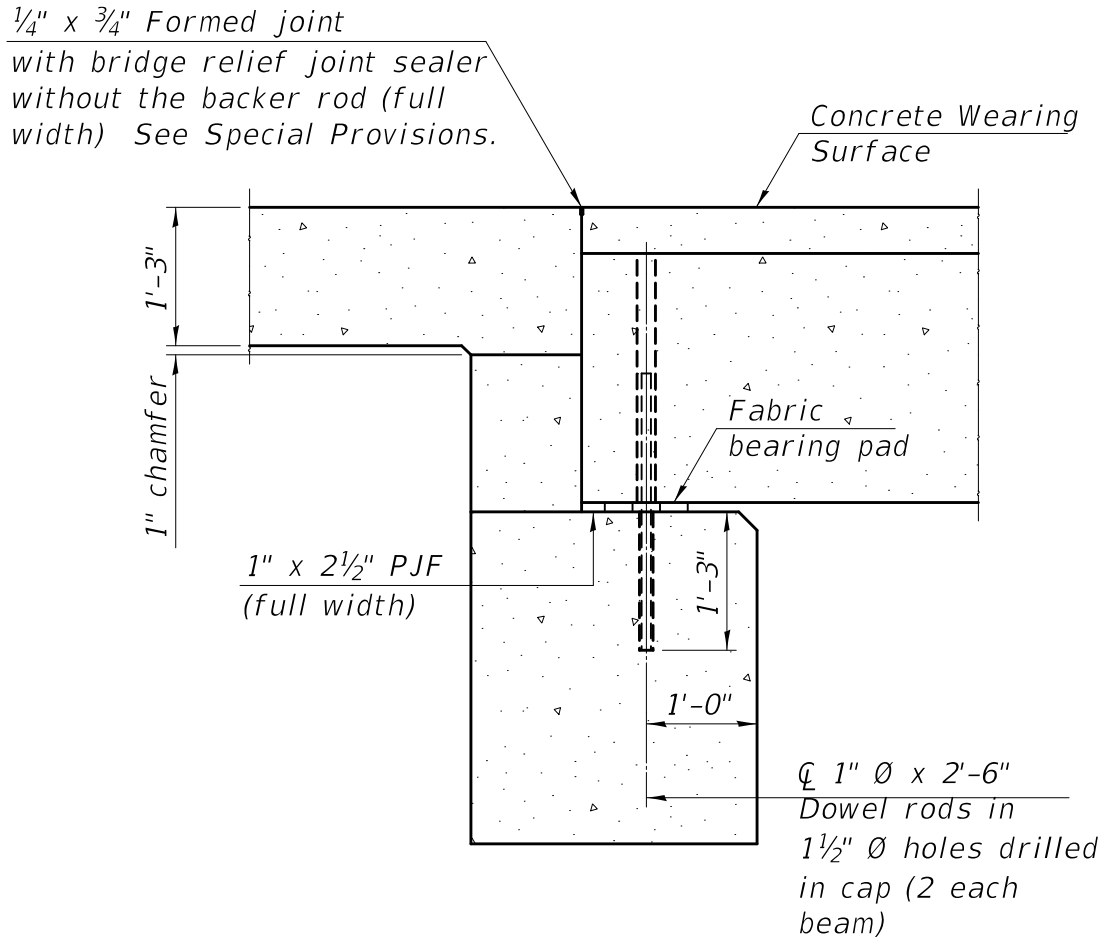


Cell Name: D00063
Descrip: Sect thru fixed abut. for 17" and 21" PPC deck beams with HMA wearing surface and approach slab



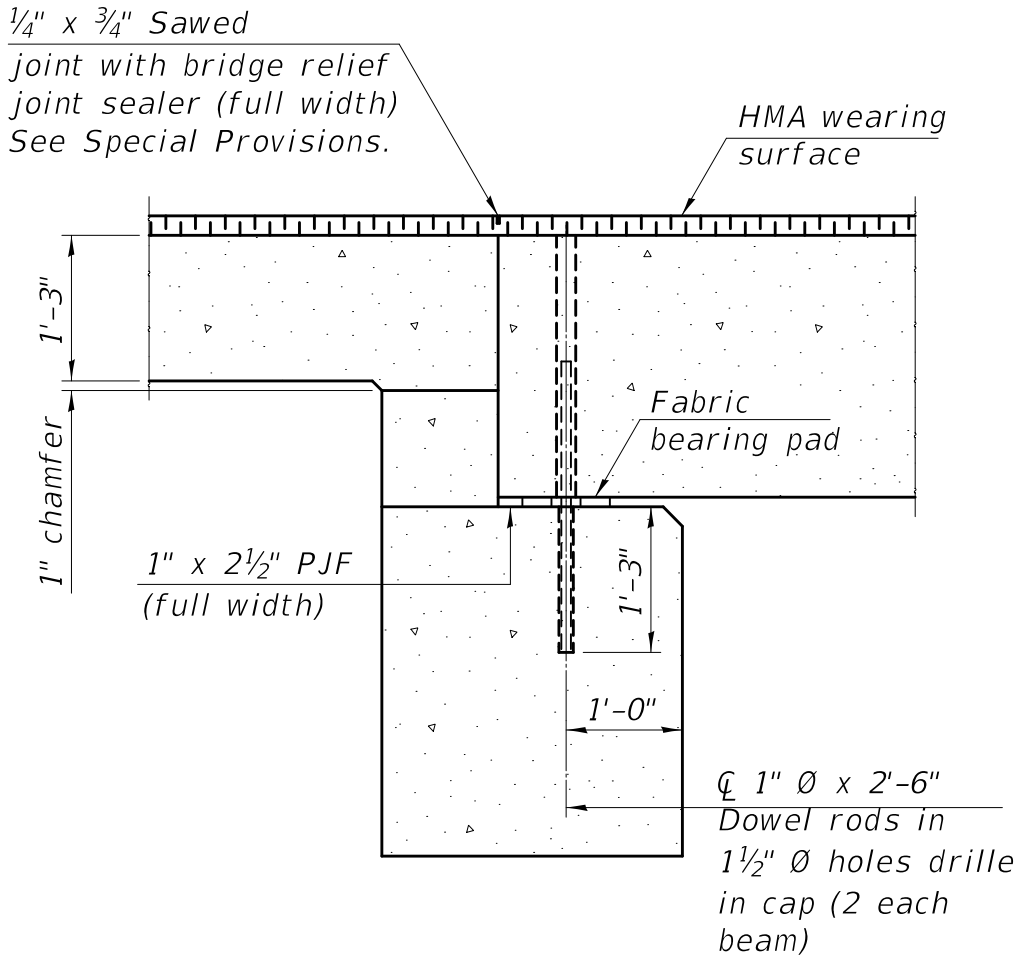
Cell Name: D00064

Descrip: Sect thru fixed abut. for 27", 33", and 42" PPC deck beams with conc. wearing surface and approach slab



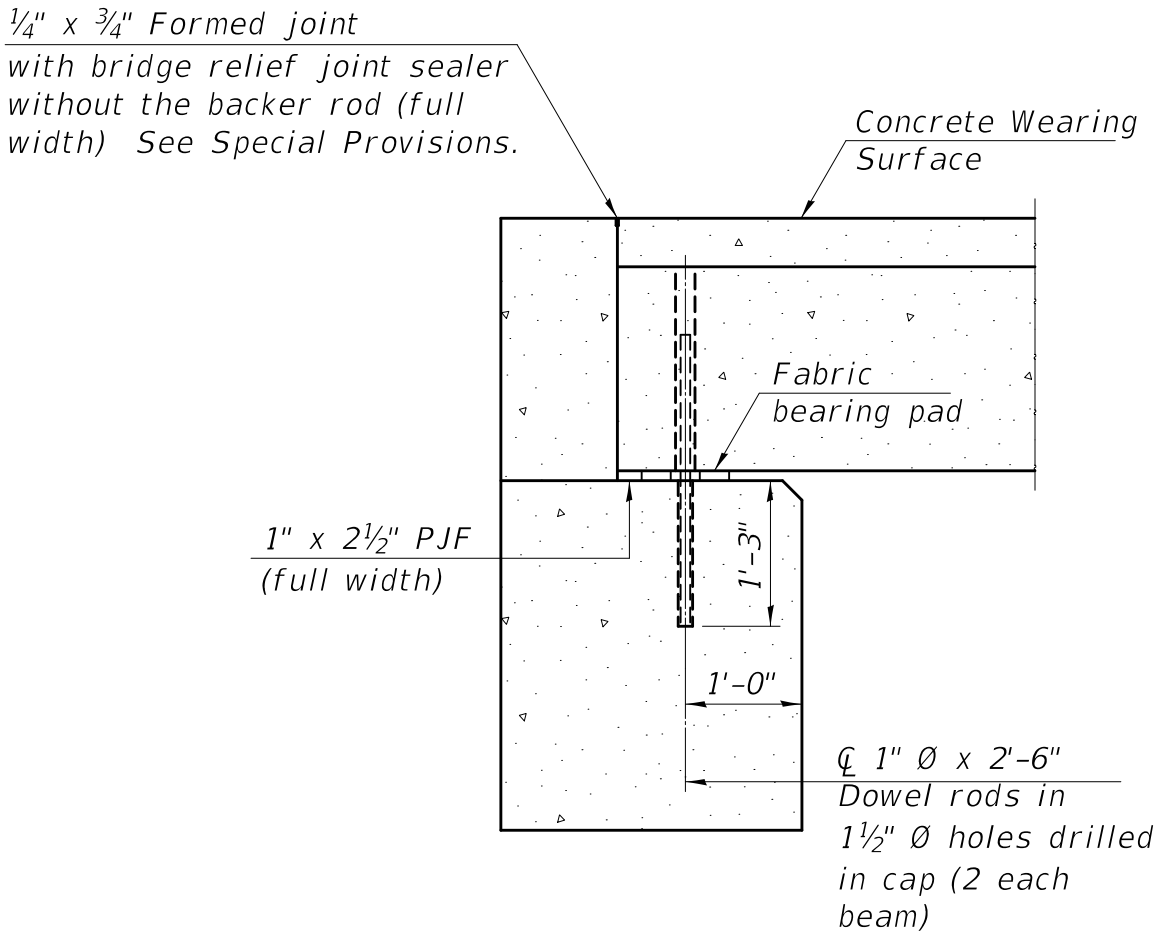
Cell Name: D00065

Descrip: Sect thru fixed abut. for 27", 33", and 42" PPC deck beams with HMA wearing surface and approach slab

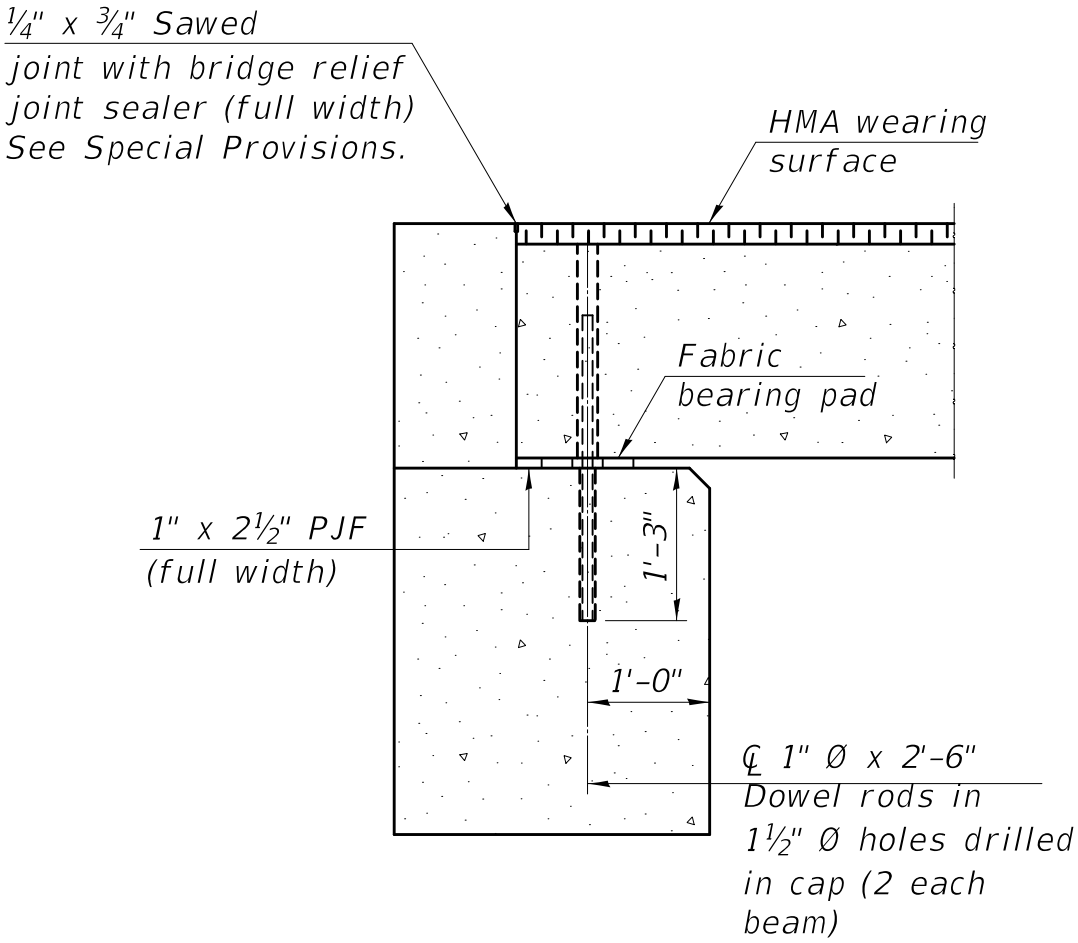


Cell Name: D00066

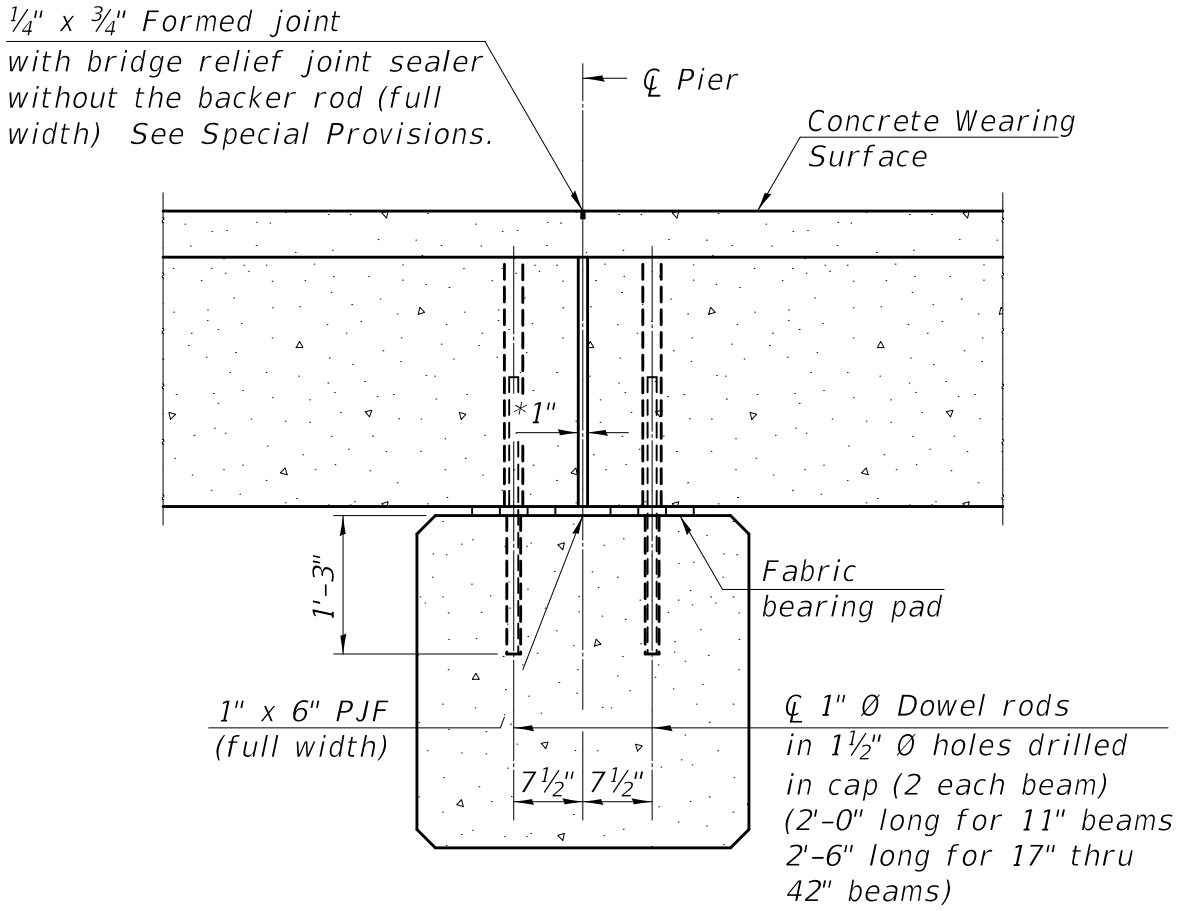
Descrip: Sect thru fixed abut. for 11" thru 42" PPC deck beams with conc. wearing surface without approach slab



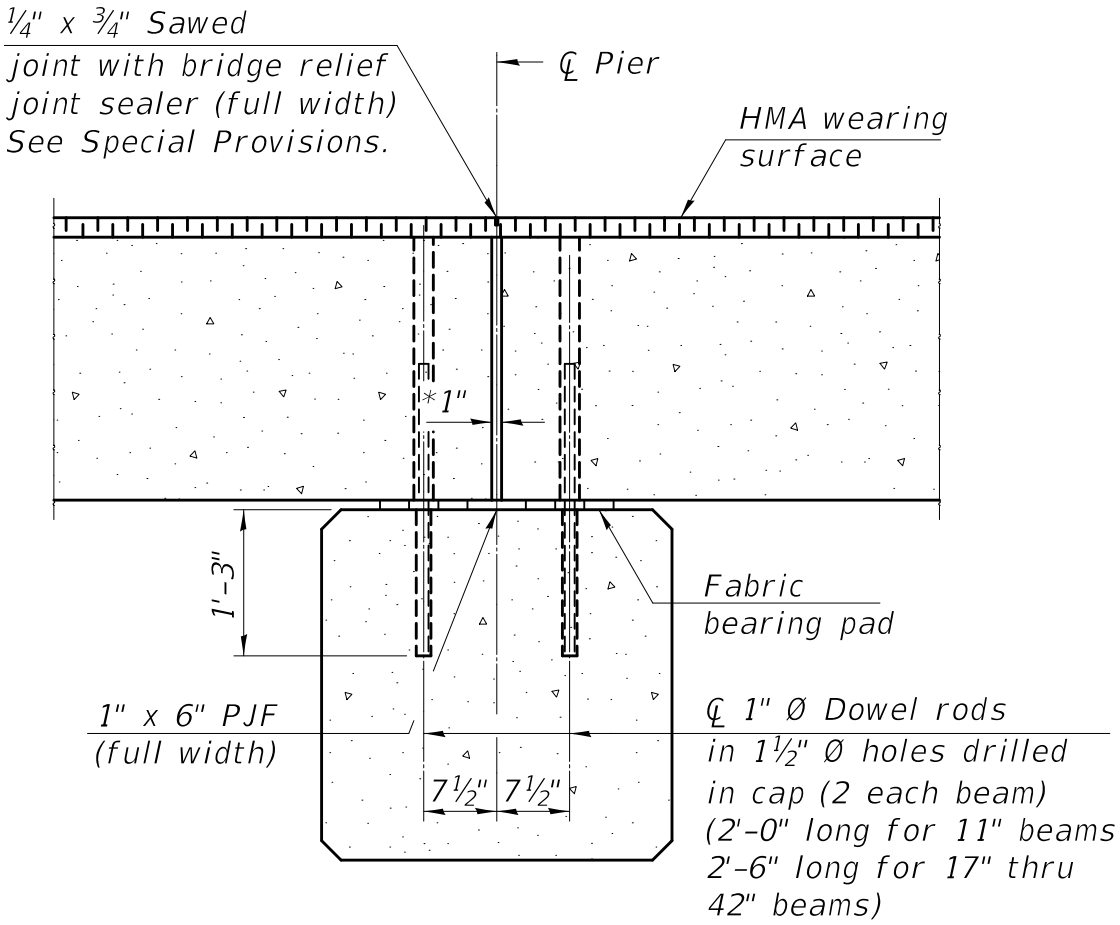
Cell Name: D00067
Descrip: Sect thru fixed abut. for 11" thru 42" PPC deck beams with HMA wearing surface without approach slab



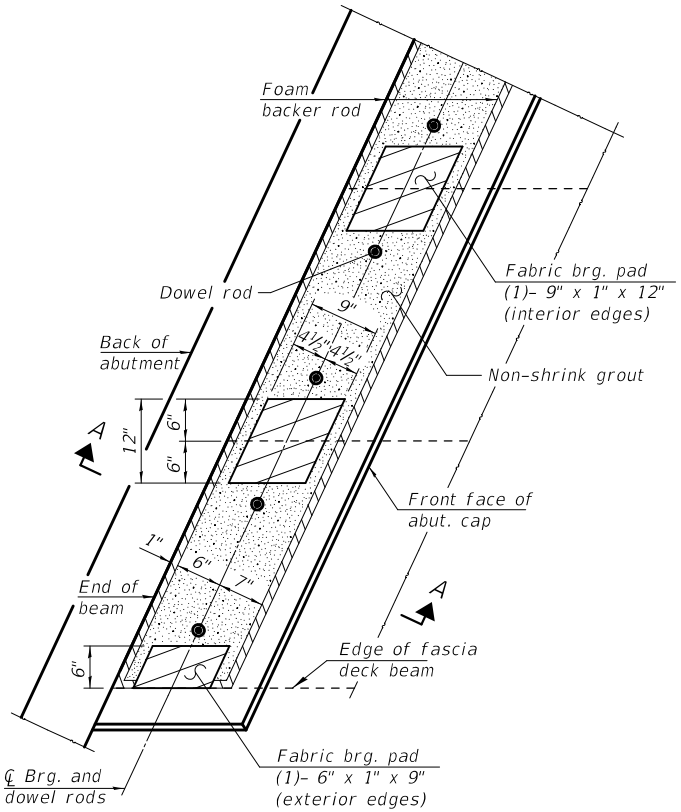
Cell Name: D00068
Descrip: Sect thru fixed pier for 11" thru 42" PPC deck beams with concrete wearing surface



Cell Name: D00069
Descrip: Sect thru fixed pier for 11" thru 42" PPC deck beams with HMA wearing surface



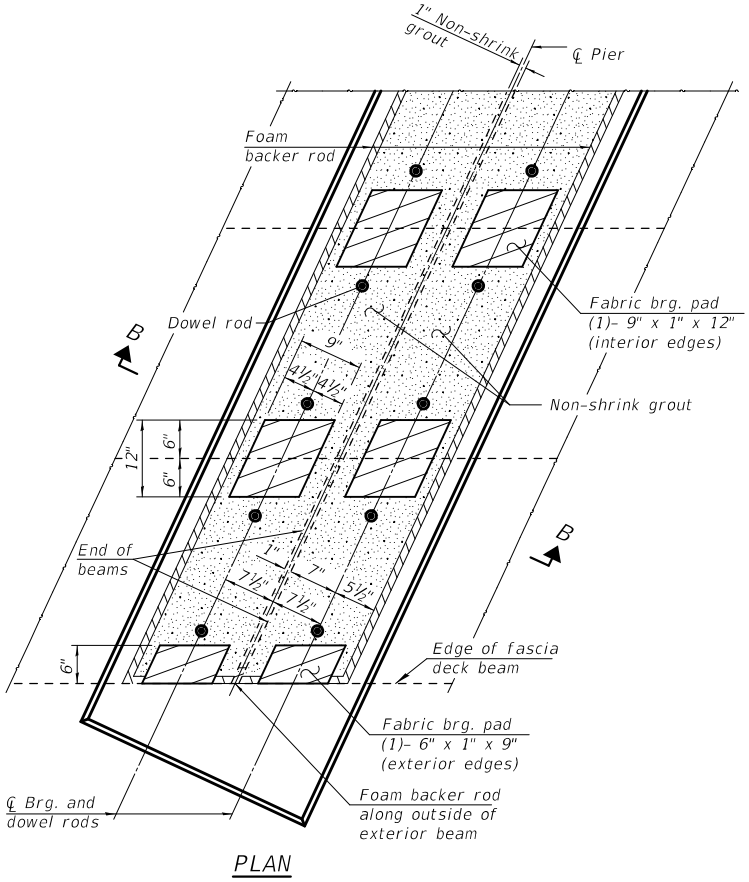
Cell Name: D00070
Descrip: Plan View of alternate fixed bearings at abutments



PLAN

Notes:
The bearing seat surfaces shall be adjusted by shimming the bearing to assure firm and even bearing prior to placement of grout. 2–⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shown shall be provided for each bearing.

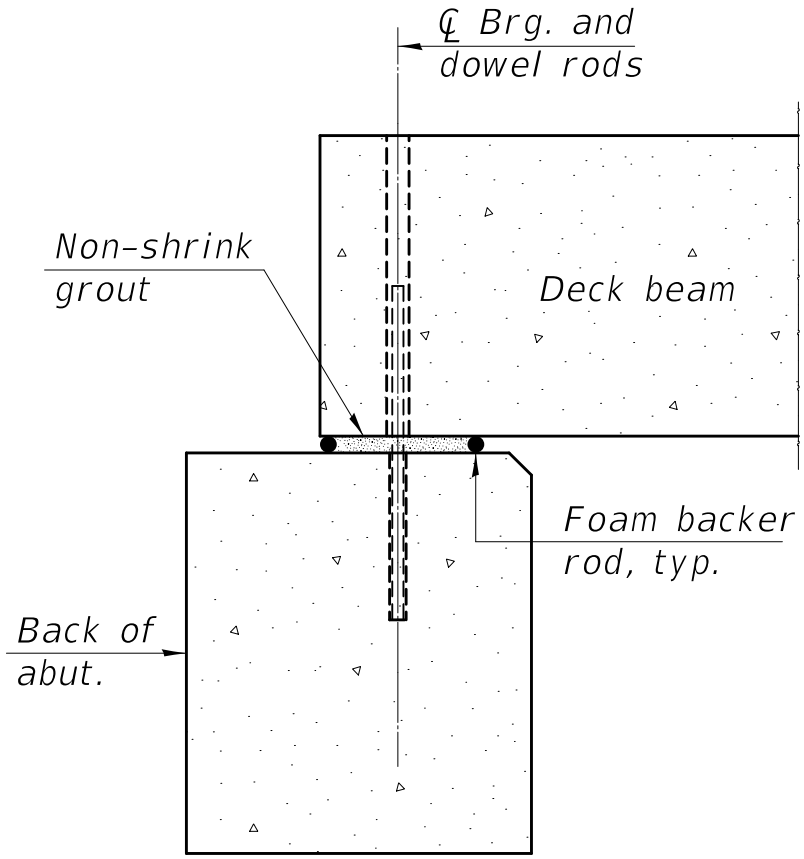
Cell Name: D00071
Descrip: Plan View of alternate fixed bearings at pier



PLAN

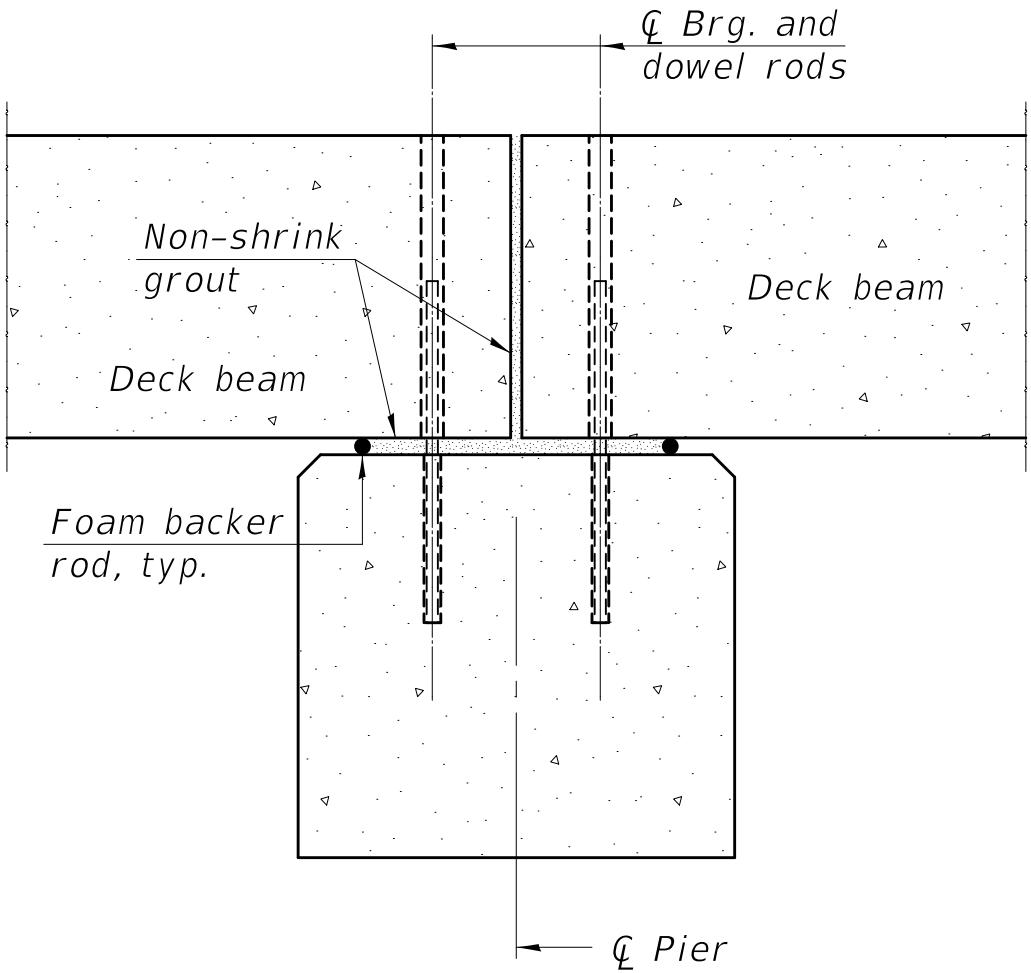
Notes:
The bearing seat surfaces shall be adjusted by shimming the bearing to assure firm and even bearing prior to placement of grout. 2-⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shown shall be provided for each bearing.

Cell Name: D00072
Descrip: Sect thru fixed abut. with alternate fixed bearings



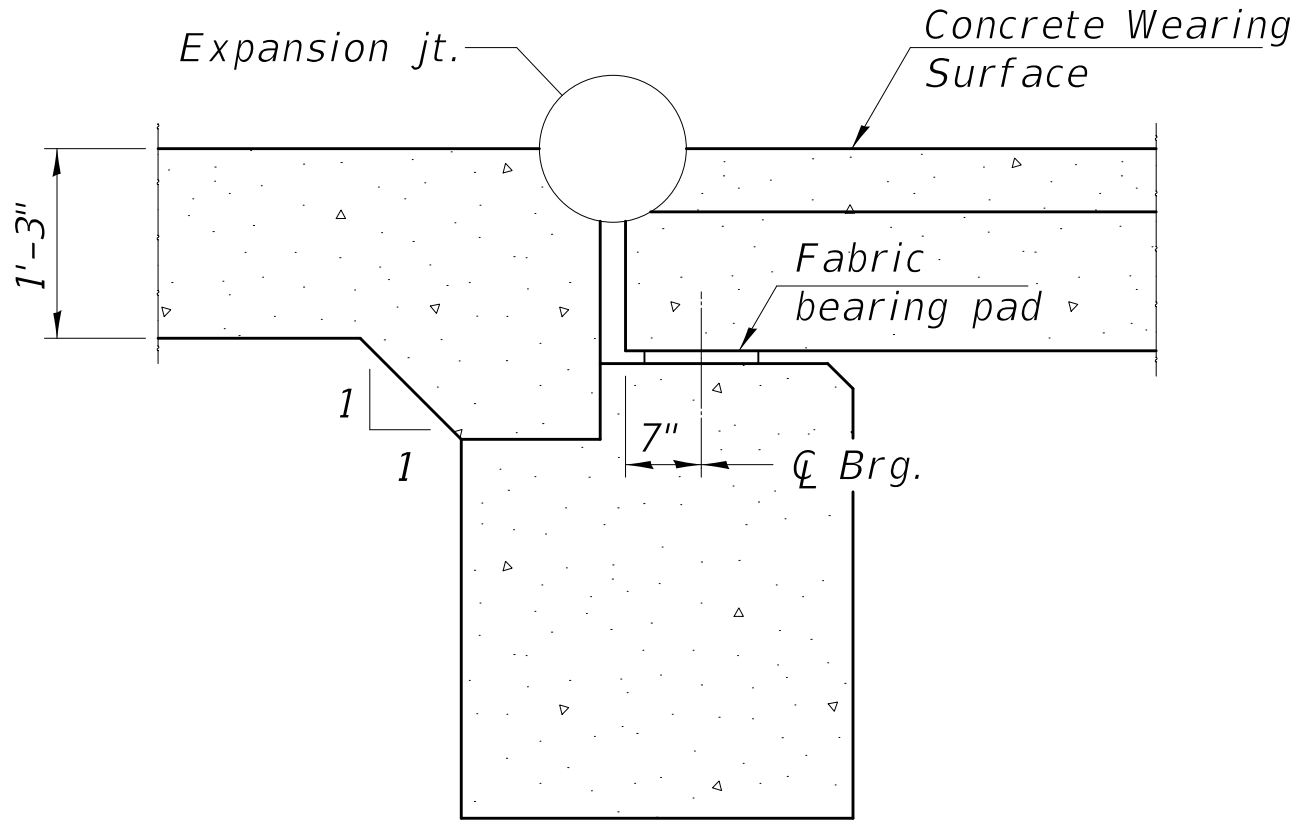
SECTION A-A

Cell Name: D00073
Descrip: Sect thru fixed pier with alternate fixed bearings



SECTION B-B

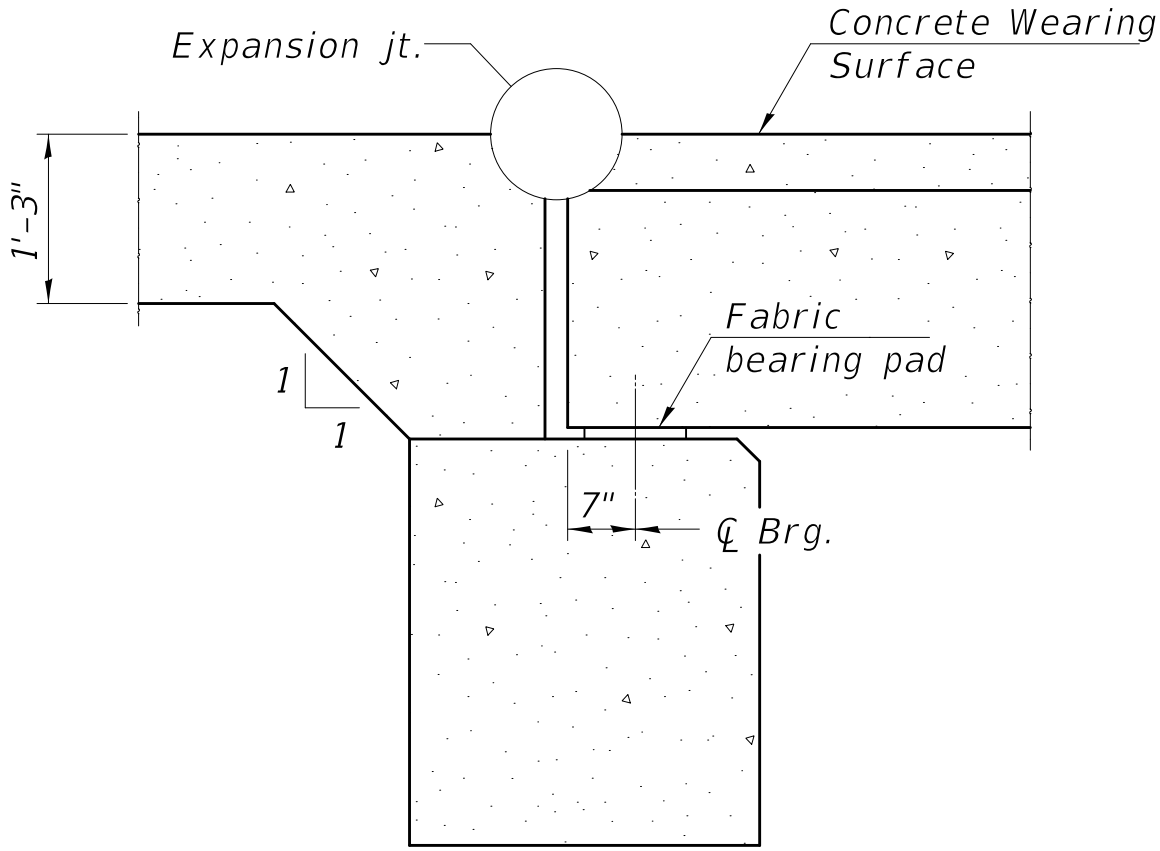
Cell Name: D00074
Descrip: Sect thru expansion abut. for 11" PPC deck beams with conc. wearing surface



SECTION THRU ABUTMENT

(Dimensions are at Rt. ∠'s)

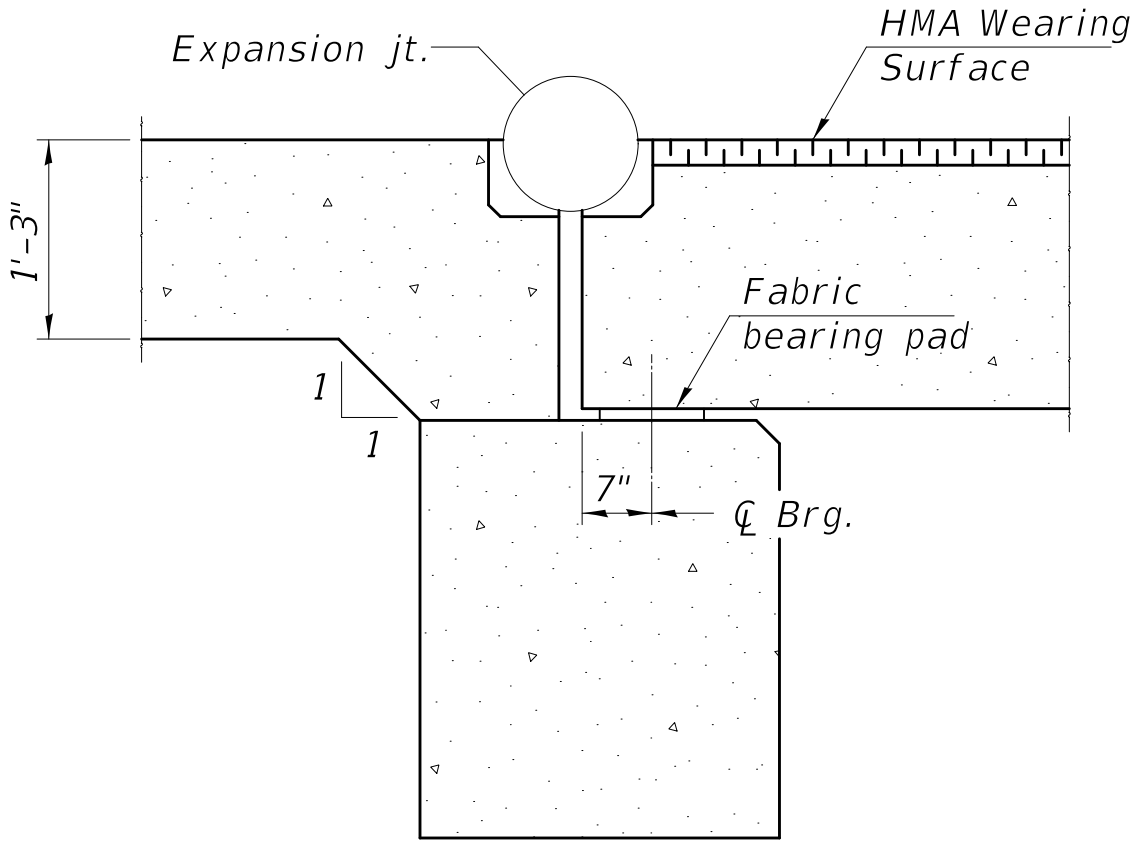
Cell Name: D00075
Descrip: Sect thru expansion abut. for 17" and 21" PPC deck beams with conc. wearing surface and approach slab



SECTION THRU ABUTMENT

(Dimensions are at Rt. ∠'s)

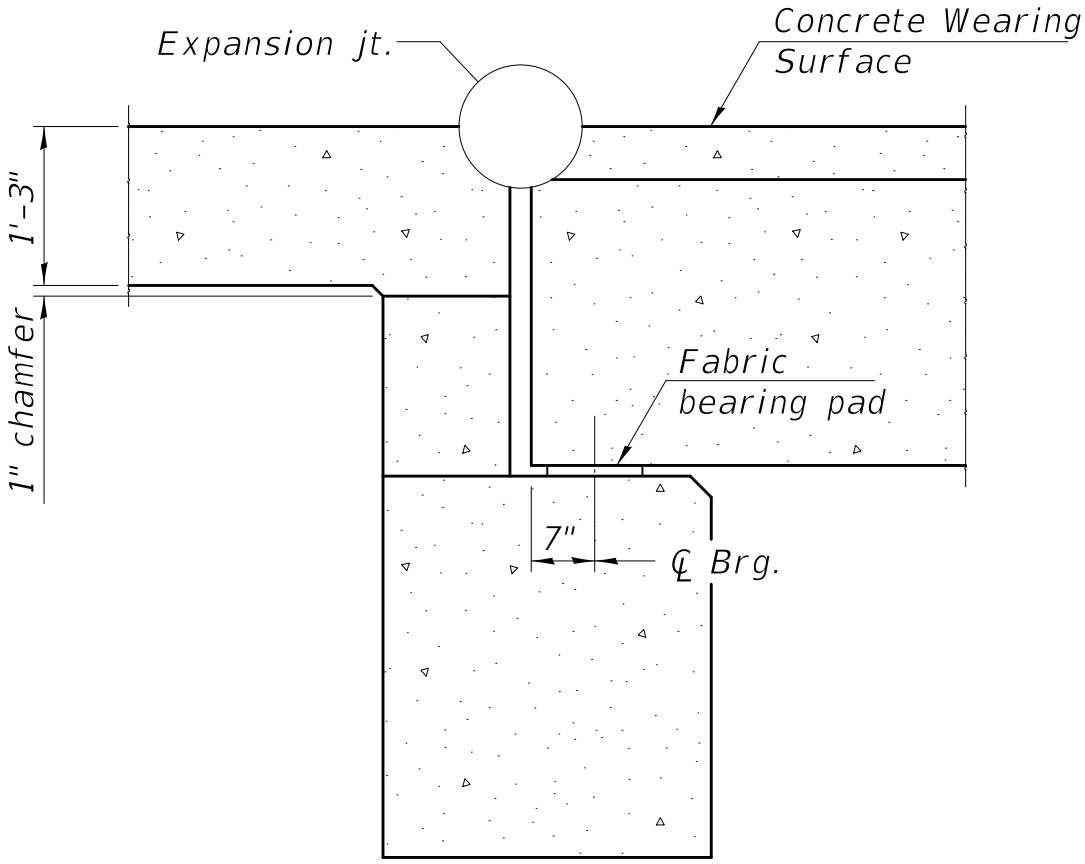
Cell Name: D00076
Descrip: Sect thru expansion abut. for 17" and 21" PPC deck beams with HMA wearing surface and approach slab



SECTION THRU ABUTMENT

(Dimensions are at Rt. ∠'s)

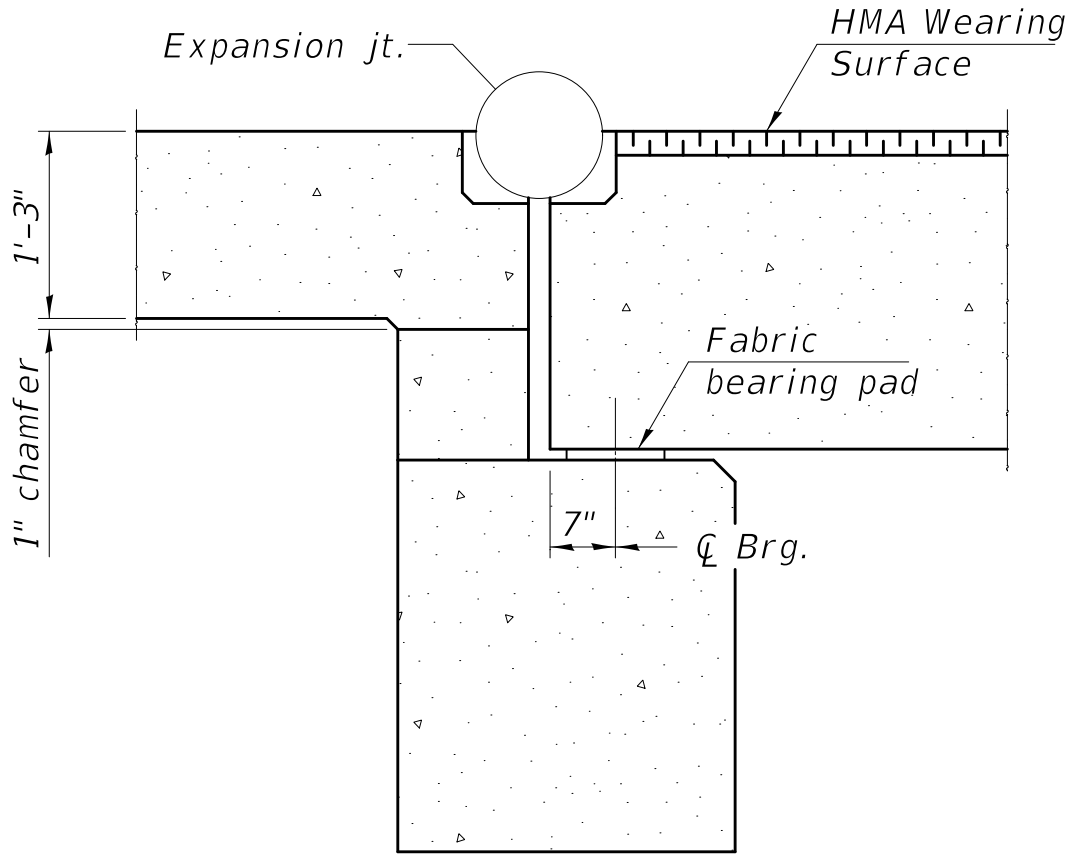
Cell Name: D00077
Descrip: Sect thru expansion abut. for 27", 33", and 42" PPC deck beams with conc. wearing surface and approach slab



SECTION THRU ABUTMENT

(Dimensions are at Rt. ∠'s)

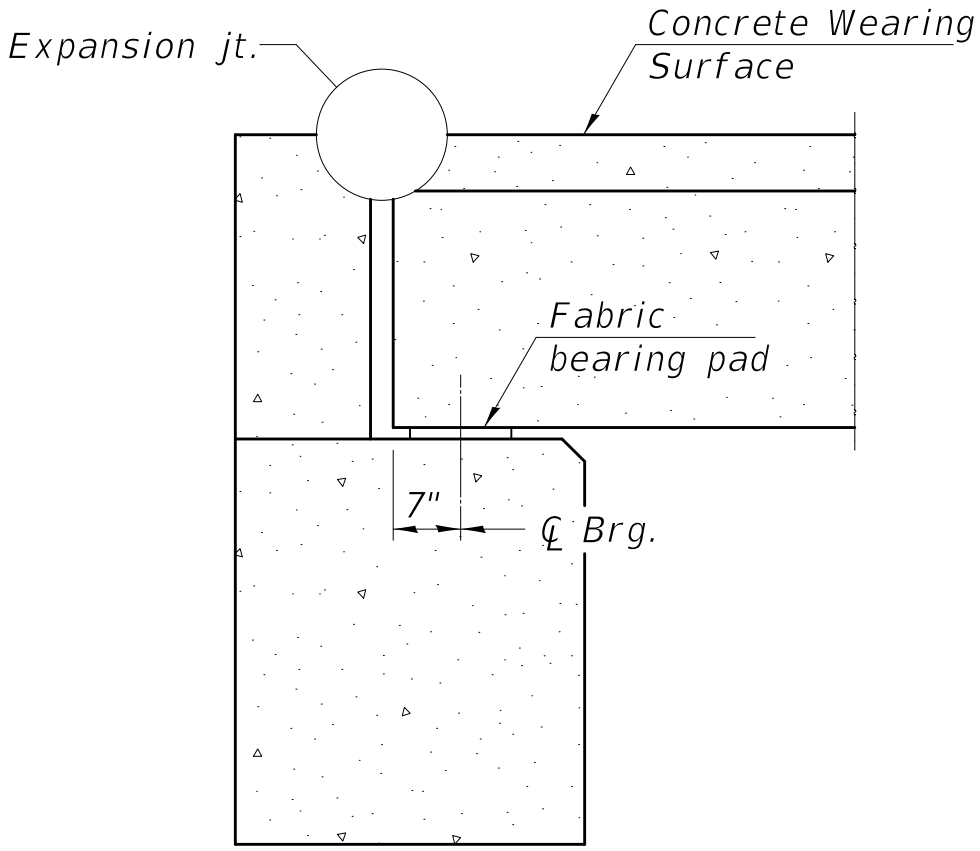
Cell Name: D00078
Descrip: Sect thru expansion abut. for 27", 33", and 42" PPC deck beams with HMA wearing surface and approach slab



SECTION THRU ABUTMENT

(Dimensions are at Rt. ∠'s)

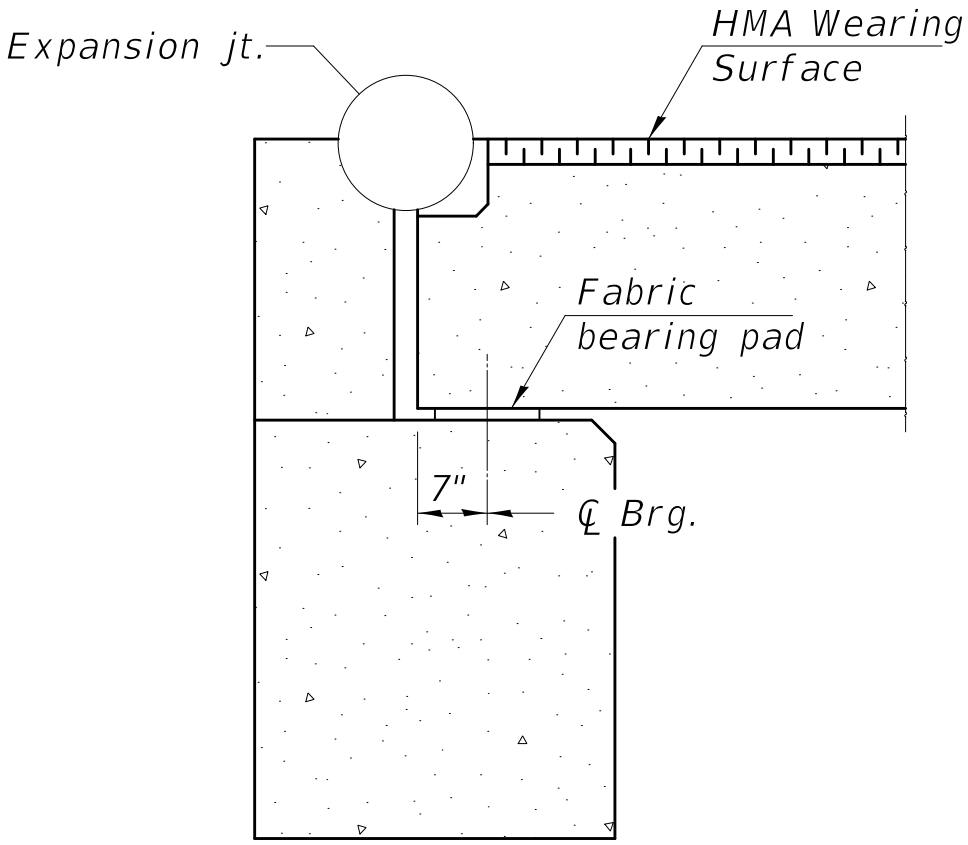
Cell Name: D00079
Descrip: Sect thru expansion abut. for 11" thru 42" PPC deck beams with conc. wearing surface without approach slab



SECTION THRU ABUTMENT

(Dimensions are at Rt. ∠'s)

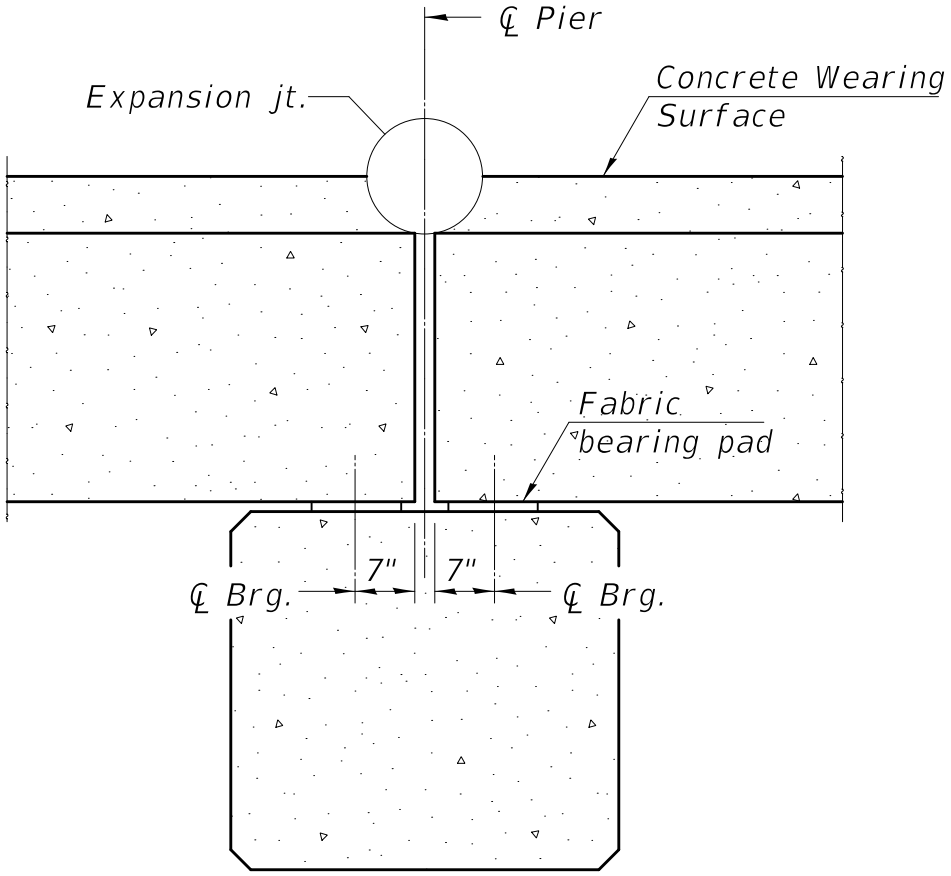
Cell Name: D00080
Descrip: Sect thru expansion abut. for 17" thru 42" PPC deck beams with HMA wearing surface without approach slab



SECTION THRU ABUTMENT

(Dimensions are at Rt. ∠'s)

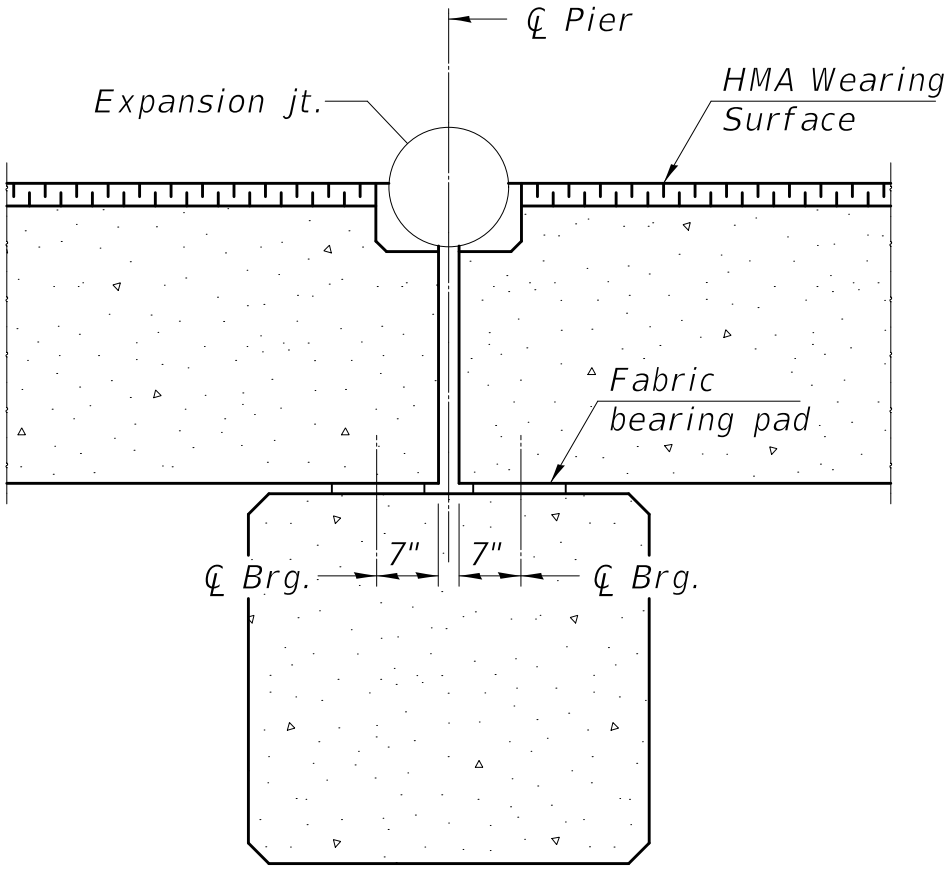
Cell Name: D00081
Descrip: Sect thru expansion pier for 11" thru 42" PPC deck beams with conc. wearing surface



SECTION THRU PIER

(Dimensions are at Rt. ∠'s)

Cell Name: D00082
Descrip: Sect thru expansion pier for 17" thru 42" PPC deck beams with HMA wearing surface

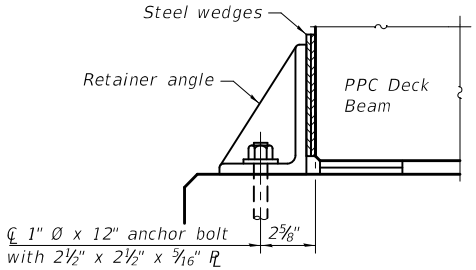


SECTION THRU PIER

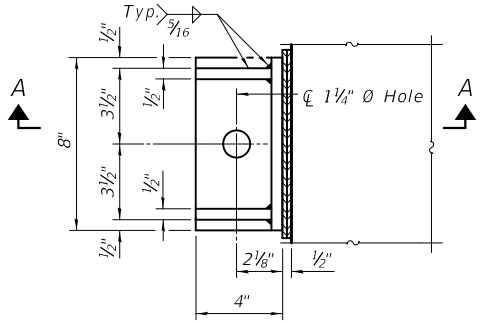
(Dimensions are at Rt. ∠'s)

Cell Name: D00083

Descrip: Retainer angle at expansion joint of deck beams



SECTION A–A



PLAN

Notes:

Cost of retainer and accessories are included with Precast Prestressed Concrete Deck Beams.

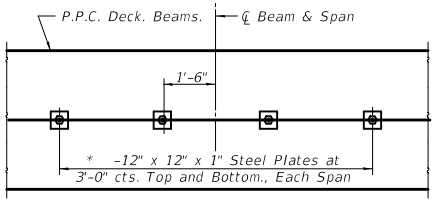
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

The side retainers shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM 385.

Anchor bolts and plate washers shall be galvanized according to AASHTO M 232.

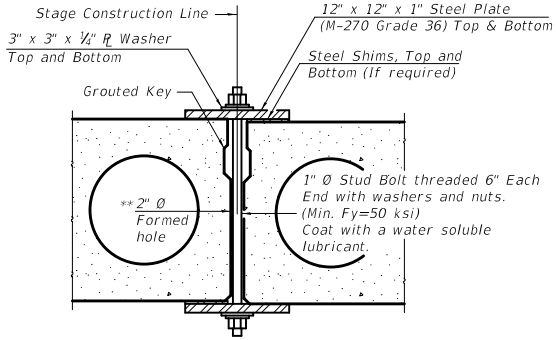
After the notch or concrete overlay are poured and cured, the steel wedges shall be removed.

Cell Name: D00084
Descrip: Shear key clamping details at stage construction joint

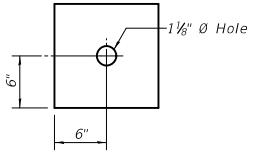


PLAN

*Space plates to miss Temporary Bridge Rail Posts.



SECTION



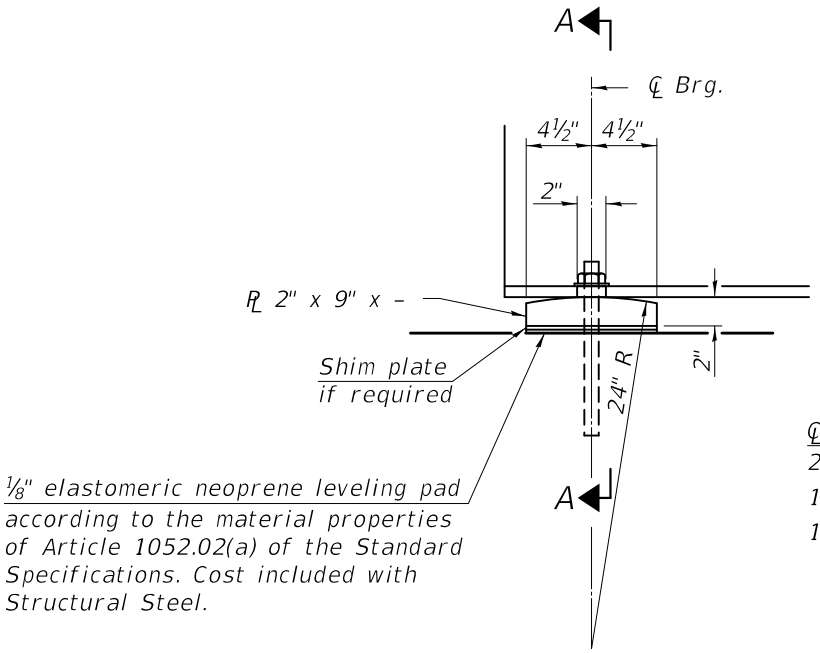
CLAMPING PLATE

SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.

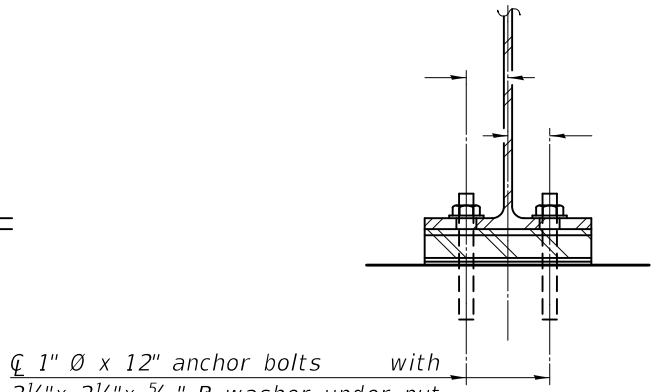
Cost included with Precast Prestressed Concrete Deck Beams.
See Stage Construction Details for traffic lanes.

** Cast semicircular recesses in the sides of each beam adjacent to the stage construction line. These recesses should align to form a hole at the appropriate locations for the clamping device bolts.

Cell Name: D00090
Descrip: Bearing detail for integral abutment with steel beams



ELEVATION AT ABUTMENT



SECTION A–A

FIXED BEARING

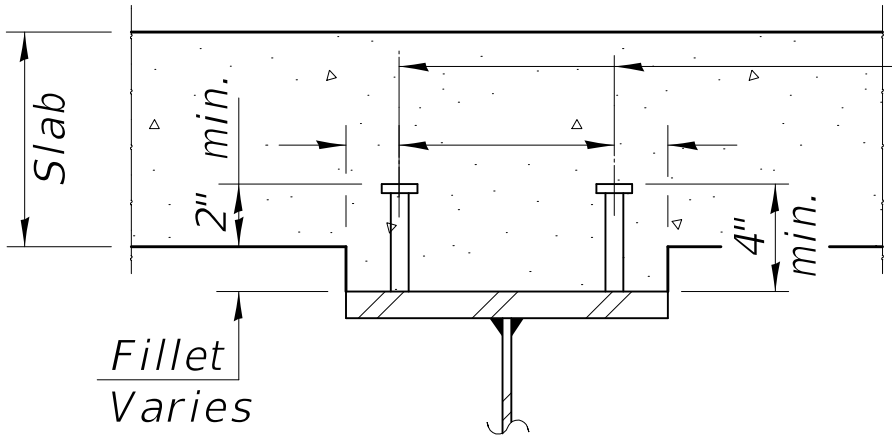
Notes:

Anchor bolts shall be according to Article 521.06 of the Standard Specifications.

Beams shall be braced for stability during erection and remain braced until deck is poured and cured.

Anchor bolts at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.

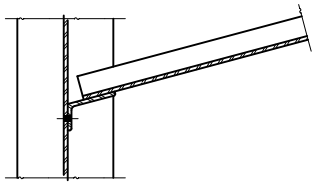
Cell Name: D00100
Descrip: Stud shear connector details



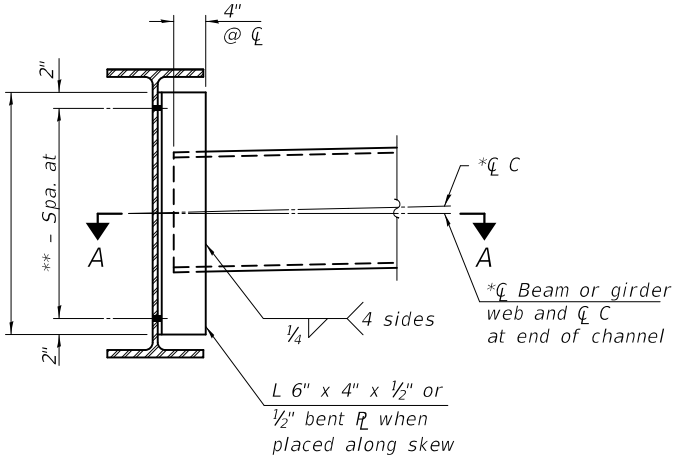
¾" Ø Granular or solid flux filled headed studs, automatically end welded to flange.
(Required)

SECTION A–A

Cell Name: D00101
Descrip: Interior diaphragm beam or girder up to 42"



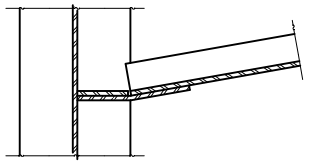
SECTION A-A



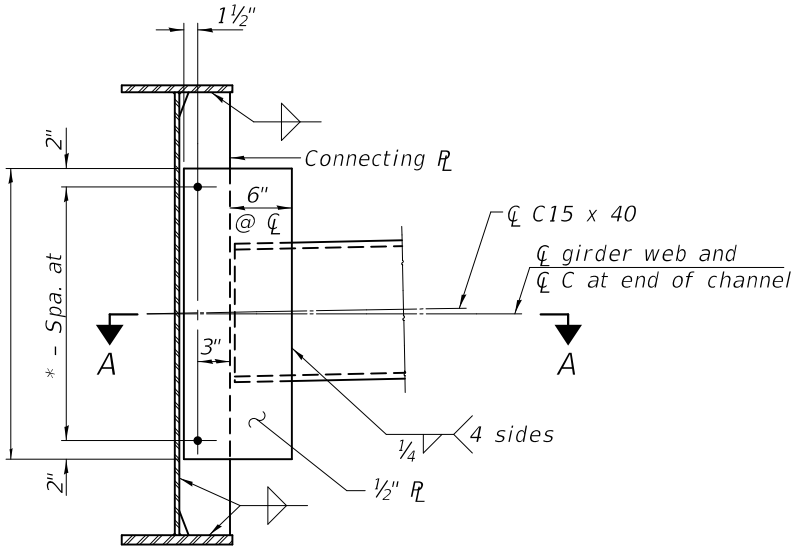
INTERIOR DIAPHRAGM

Note:
Two hardened washers required for each set of oversized holes.
*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no additional cost to the Department.
**¾" Ø HS bolts, $^{15}/_{16}$" Ø holes

Cell Name: D00102
Descrip: Interior diaphragm plate girder < 48"



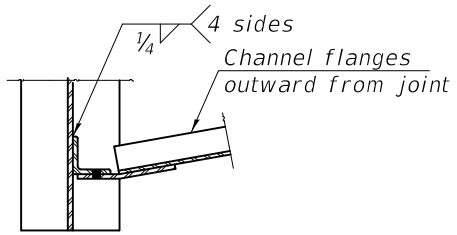
SECTION A-A



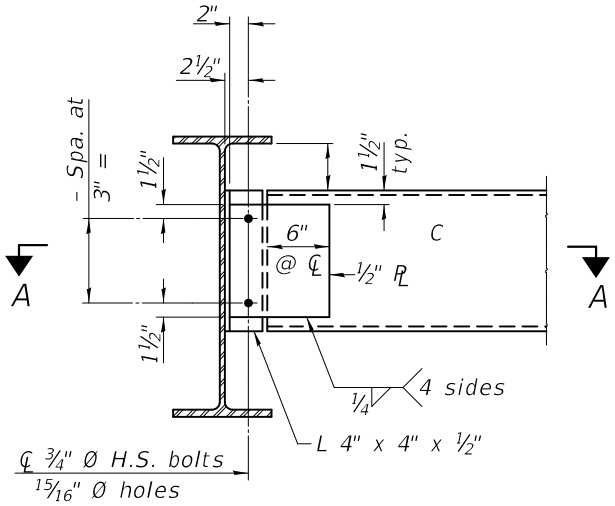
INTERIOR DIAPHRAGM

Note:
Two hardened washers required for each set of oversized holes.
**¾" Ø HS bolts, 15/16" Ø holes*

Cell Name: D00103
Descrip: End diaphragm for wide flange beams



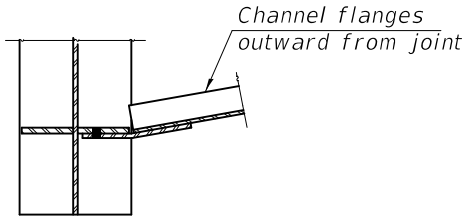
SECTION A-A



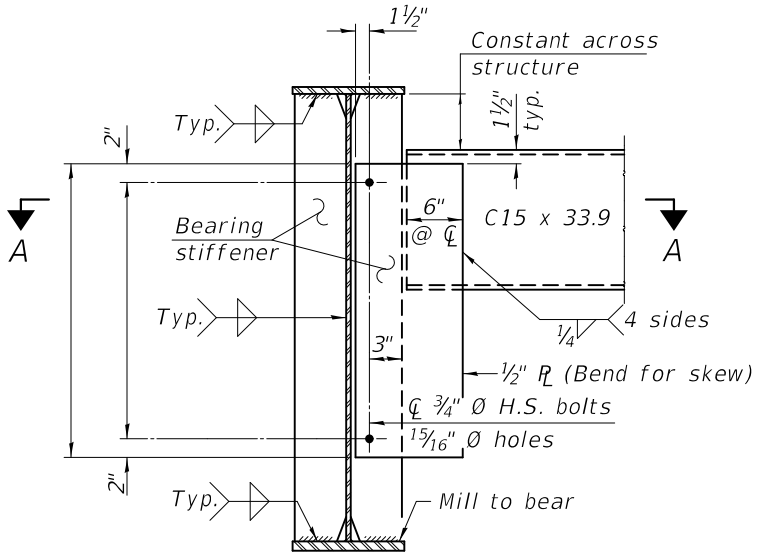
END DIAPHRAGM

Note:
Two hardened washers required for each set of oversized holes.

Cell Name: D00104
Descrip: End diaphragm for shallow plate girders



SECTION A-A

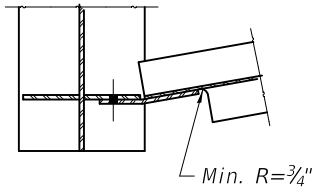


END DIAPHRAGM

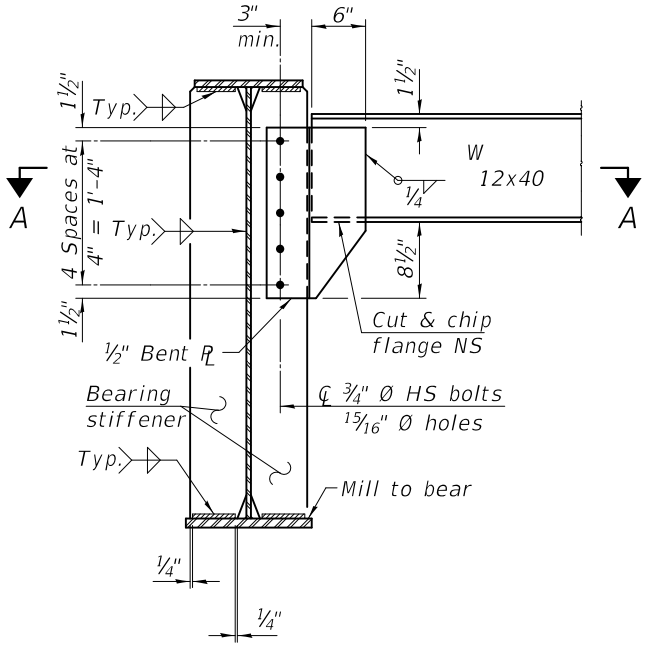
Note:
Two hardened washers required for each set of oversized holes.

Cell Name: D00105

Descrip: End diaphragm for plate girders < 48" and skew < 45 deg with finger plate or modular joints



SECTION A-A

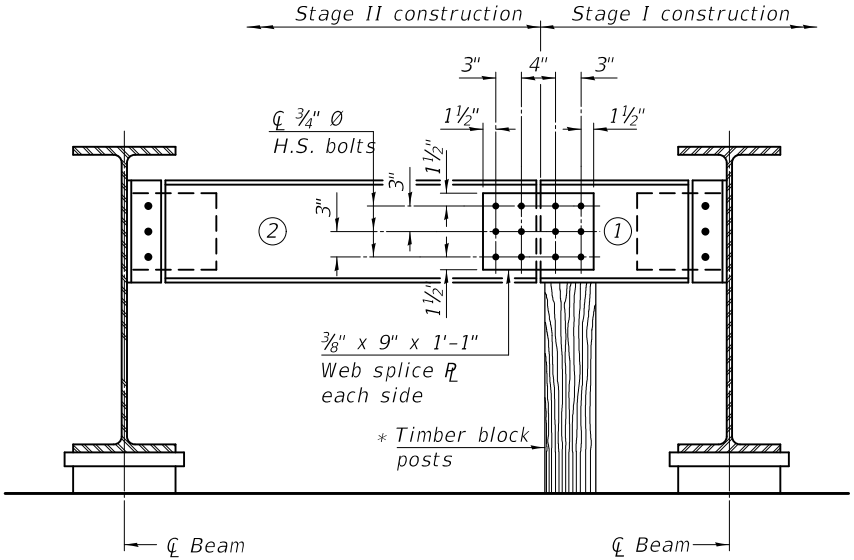


END DIAPHRAGM

Note: Two hardened washers required for each set of oversized holes.

Cell Name: D00110
Descrip: End diaphragm stage construction sequence for wide flange beams

* Cost of Timber Block Posts is included with Structural Steel.



END DIAPHRAGM

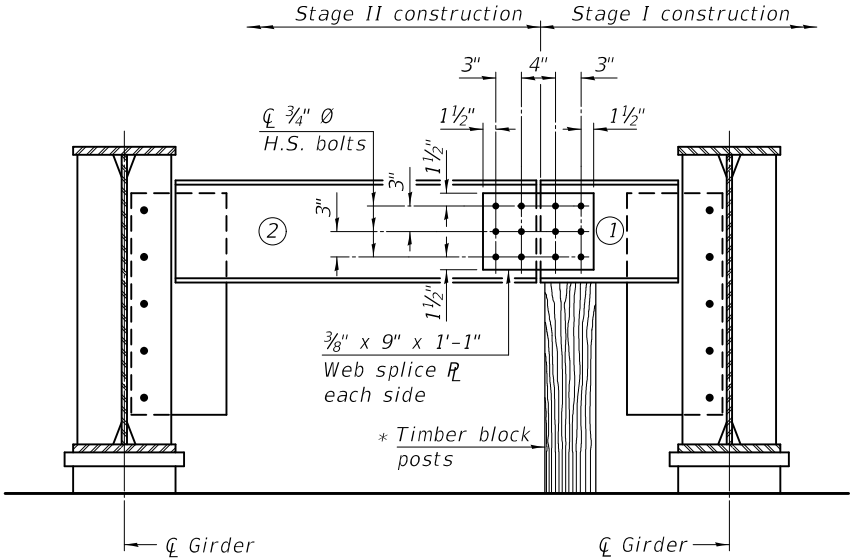
END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE

Order diaphragm in two sections.

1.) Attach section ① of diaphragm to beam
2.) Place timber block posts between section ① of diaphragm and
3.) abutment bearing section.
4.) Attach section ② of diaphragm to both beam and section ①
5.) of diaphragm during stage II construction with splice plates.
Remove timber block posts.

Cell Name: D00111
Descrip: End diaphragm stage construction sequence for plate girders

* Cost of Timber Block Posts is included with Structural Steel.



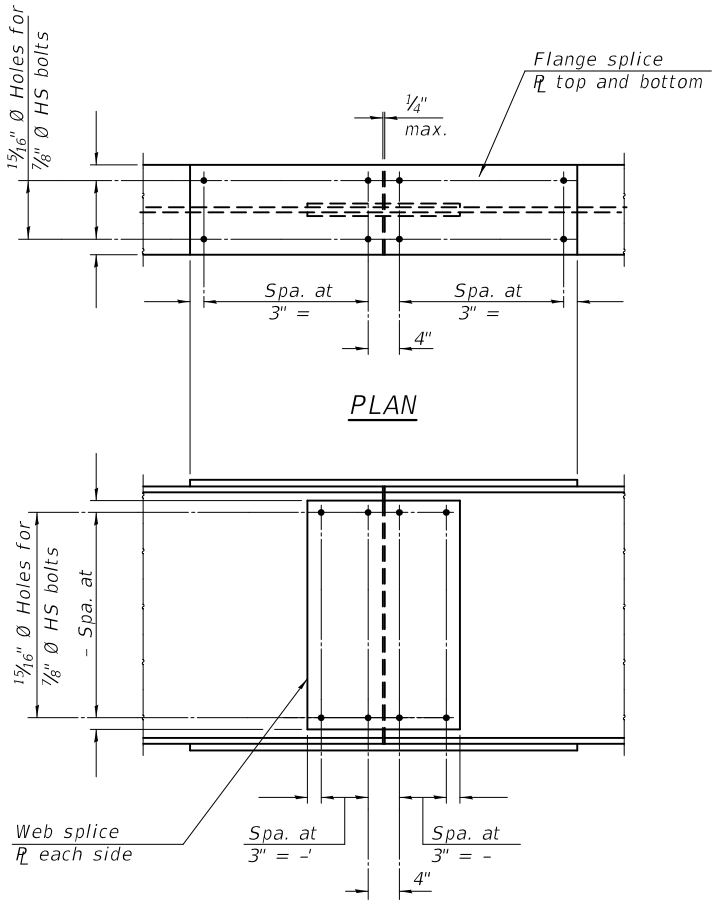
END DIAPHRAGM

END DIAPHRAGM STAGE CONSTRUCTION SEQUENCE

Order diaphragm in two sections.

1.) Attach section ① of diaphragm to girder .
2.) Place timber block posts between section ① of diaphragm and
3.) abutment bearing section.
4.) Attach section ② of diaphragm to both girder and section ①
5.) of diaphragm during stage II construction with splice plates.
Remove timber block posts.

Cell Name: D00120
Descrip: Wide flange splice detail (outside flange plates only)



SPLICE DETAIL
(Required)

Cell Name: D00130

Descrip: LRFD data tables (Non-composite in negative moment regions)

INTERIOR GIRDER MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
Is	(in^4)		
Ic(n)	(in^4)		
Ic(3n)	(in^4)		
Ss	(in^3)		
Sc(n)	(in^3)		
Sc(3n)	(in^3)		
DC1	(k/')		
MDC1	('k)		
DC2	(k/')		
MDC2	('k)		
DW	(k/')		
MDW	('k)		
M_{L+IM}	('k)		
Mu (Strength I)	('k)		
Øf Mn	('k)		
fs DC1	(ksi)		
fs DC2	(ksi)		
fs DW	(ksi)		
fs (L+IM)	(ksi)		
fs (Service II)	(ksi)		
0.95Rh Fyf	(ksi)		
fs (Total)(Strength I)	(ksi)		
Øf Fn	(ksi)		
Vf	(k)		

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
RDC1	(k)		
RDC2	(k)		
RDW	(k)		
R_{L+IM}	(k)		
RTotal	(k)		

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) due to short-term composite live loads ($in.^4$ and $in.^3$).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_{L+IM}

Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1 / Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2 / Sc(3n) or MDC2 / Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW / Sc(3n) or MDW / Sc(cr) as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
M_{L+IM} / Sc(n) or M_{L+IM} / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs_{L+IM}

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs_{L+IM}

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

Cell Name: D00131

Descrip: LRFD data tables (Composite in negative moment regions)

INTERIOR GIRDER MOMENT TABLE			
		0.4 Sp. 1 or 0.6 Sp. 2	Pier
Is	(in^4)		
Ic(n)	(in^4)		
Ic(3n)	(in^4)		
Ic(cr)	(in^4)		
Ss	(in^3)		
Sc(n)	(in^3)		
Sc(3n)	(in^3)		
Sc(cr)	(in^3)		
DC1	(k/')		
MDC1	('k)		
DC2	(k/')		
MDC2	('k)		
DW	(k/')		
MDW	('k)		
M_{L+IM}	('k)		
Mu (Strength I)	('k)		
Øf Mn	('k)		
fs DC1	(ksi)		
fs DC2	(ksi)		
fs DW	(ksi)		
fs (L+IM)	(ksi)		
fs (Service II)	(ksi)		
0.95Rh Fyf	(ksi)		
fs (Total)(Strength I)	(ksi)		
Øf Fn	(ksi)		
Vf	(k)		

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
RDC1	(k)		
RDC2	(k)		
RDW	(k)		
R_{L+IM}	(k)		
RTotal	(k)		

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads ($in.^4$ and $in.^3$).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

Mu (Strength I): Factored design moment (kip-ft.).
1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_{L+IM}

Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1/ Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2/ Sc(3n) or MDC2/ Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW/ Sc(3n) or MDW/ Sc(cr) as applicable.

fs (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
M_{L+IM} / Sc(n) or MDW / Sc(cr) as applicable.

fs (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs($_{L+IM}$)

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs($_{L+IM}$)

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

Note:
M_L and R_L include the effects of centrifugal force and superelevation.

Cell Name: D00132

Descrip: LRFD data tables for curved girders

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	0.6 Sp. 2
Is	(in^4)			
Ic(n)	(in^4)			
Ic(3n)	(in^4)			
Ic(cr)	(in^4)			
Ss	(in^3)			
Sc(n)	(in^3)			
Sc(3n)	(in^3)			
Sc(cr)	(in^3)			
Sxc	(in^3)			
DC1	(k/')			
MDC1	('k)			
DC2	(k/')			
MDC2	('k)			
DW	(k/')			
MDW	('k)			
M_{L+IM}	('k)			
ff (Strength 1)	('k)			
Mu + $^{1}/_{3}$ff Sxc	('k)			
Øf Mn	('k)			
fs DC1	(ksi)			
fs DC2	(ksi)			
fs DW	(ksi)			
fs (L+IM)	(ksi)			
ff (Service II)	(ksi)			
fs+ $^{ff}/_{2}$ (Service II)	(ksi)			
0.95Rh Fyf	(ksi)			
fs + $^{ff}/_{3}$ (Total)(Strength I)	(ksi)			
Øf Fn	(ksi)			
Vf	(k)			

INTERIOR GIRDER REACTION TABLE				
		N. Abut.	Pier	S. Abut.
RDC1	(k)			
RDC2	(k)			
RDW	(k)			
R_{L+IM}	(k)			
RTotal	(k)			

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to short term composite live loads ($in.^4$ and $in.^3$).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total-Strength I, and Service II) in uncracked sections due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Ic(cr), Sc(cr): Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing fs(Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Sxc: Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange ($in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

MDC1: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

Mu (Strength 1): Factored design moment (kip-ft.).
1.25 (MDC1+ MDC2) + 1.5 MDW + 1.75 M_{L+IM}

ff: Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (kip-ft.).

Øf Mn: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).

fs DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
MDC1 / Snc

fs DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
MDC2 / Sc(3n) or MDC2 / Sc(cr) as applicable.

fs DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
MDW / Sc(3n) or MDW / Sc(cr) as applicable.

fs (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).
M_{L+IM} / Sc(n) or MDW / Sc(cr) as applicable.

fs + $^{ff}/_{2}$ (Service II): Sum of stresses as computed below (ksi).
fsDC1 + fsDC2 + fsDW + 1.3 fs(L+IM) + $^{ff}/_{2}$

0.95RhFyf: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

fs + $^{ff}/_{3}$ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
1.25 (fsDC1 + fsDC2) + 1.5 fsDW + 1.75 fs(L+IM) + $^{ff}/_{3}$

Øf Fn: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

Vf: Maximum factored shear range in span computed according to Article 6.10.10.

Note:
M_{L} and R_{L} include the effects of centrifugal force and superelevation.

Cell Name: D00133
Descrip: LRFD PPC I beam data tables

INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)			
I'	(in^4)			
Sb	(in^3)			
Sb'	(in^3)			
St	(in^3)			
St'	(in^3)			
DC1	(k/')			
MDC1	('k)			
DC2	(k/')			
MDC2	('k)			
DW	(k/')			
MDW	('k)			
M_{L+IM}	('k)			

	INTERIOR BEAM REACTION TABLE				
			Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
	RDC1	(k)			
*	RDC2	(k)			
*	RDW	(k)			
*	R_{L+IM}	(k)			
	RTotal	(k)			

* At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
Sb: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
Sb': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
St: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
St': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
DC1: Un-factored non-composite dead load (kips/ft.).
MDC1: Un-factored moment due to non-composite dead load (kip-ft.).
DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
MDC2: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
MDW: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft).
M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

Cell Name: D00134
Descrip: LFD data tables

	INTERIOR GIRDER MOMENT TABLE			
			0.4 Sp. 1 or 0.6 Sp. 2	Pier
	Is	(in⁴)		
	Ic(n)	(in⁴)		
	Ic(3n)	(in⁴)		
	Ss	(in³)		
	Sc(n)	(in³)		
	Sc(3n)	(in³)		
	Z	(in³)		
	w_D	(k/')		
	M_D	('k)		
	s_D	(k/')		
	M_{sD}	('k)		
	M_L	('k)		
	MI	('k)		
	$\frac{5}{3}$ [M_L + I]	('k)		
	Ma	('k)		
*	Mu	('k)		
	f_s w_D non-comp	(ksi)		
	f_s w_D (comp)	(ksi)		
	f_s $\frac{5}{3}$ [M_L + M_I]	(ksi)		
	f_s (Overload)	(ksi)		
**	f_s (Total)	(ksi)		
	VR	(k)		

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
R_D	(k)		
R_L	(k)		
R_I	(k)		
R_{Total}	(k)		

* Compact section
** Braced non-compact and partially braced section

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total and Overload) due to non-composite dead loads (in.⁴ and in.³).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total and Overload) due to short-term composite live loads (in.⁴ and in.³).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.³).

w_D: Un-factored non-composite dead load (kips/ft.).

M_D: Un-factored moment due to non-composite dead load (kip-ft.).

s_D: Un-factored long-term composite (superimposed) dead load (kips/ft.)

M_{sD}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_L: Un-factored live load moment (kip-ft.).

MI: Un-factored moment due to impact (kip-ft.).

Ma: Factored design moment (kip-ft.).
1.3 [M_D + M_{sD} + $\frac{5}{3}$ (M_L + MI)]

Mu: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

fs (Overload): Sum of stresses as computed from the moments below (ksi).
M_D + M_{sD} + $\frac{5}{3}$ (M_L + MI)

fs (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.3 [M_D + M_{sD} + $\frac{5}{3}$ (M_L + MI)]

VR: Maximum M_L + impact shear range within the composite portion of the span for stud shear connector design (kips).

Cell Name: D00135

Descrip: LFD data tables for curved girders

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1	Pier	0.6 Sp. 2
Is	(in^4)			
Ic(n)	(in^4)			
Ic(3n)	(in^4)			
Ss	(in^3)			
Sc(n)	(in^3)			
Sc(3n)	(in^3)			
Sℓ	(in^3)			
ℙ	(k/')			
Mℙ	('k)			
sℙ	(k/')			
Msℙ	('k)			
M𝕃	('k)			
MI	('k)			
$\frac{5}{3}$[M𝕃 + MI]	('k)			
Ma	('k)			
Mbℓ	('k)			
fsℙ (non-comp)	(ksi)			
fsℙ (comp)	(ksi)			
fs$\frac{5}{3}$ [M𝕃 + MI]	(ksi)			
fℓ	(ksi)			
fs(Overload)	(ksi)			
fs(Total)	(ksi)			
Fcr(Overload)	(ksi)			
VR	(k)			
Fcr	(ksi)			

INTERIOR GIRDER REACTION TABLE				
		N. Abut.	Pier	S. Abut.
Rℙ	(k)			
R𝕃	(k)			
RI	(k)			
R_{Total}	(k)			

Is, Ss: Non-composite moment of inertia and section modulus of the steel section used for computing fs(Total and Overload) due to non-composite dead loads ($in.^4$ and $in.^3$).

Ic(n), Sc(n): Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing fs(Total and Overload) due to short-term composite live loads ($in.^4$ and $in.^3$).

Ic(3n), Sc(3n): Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing fs(Total and Overload) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

Sℓ: Section modulus of one flange plate for lateral flange bending ($in.^3$).

ℙ: Un-factored non-composite dead load (kips/ft.).

Mℙ: Un-factored moment due to non-composite dead load (kip-ft).

sℙ: Un-factored long-term composite (superimposed) dead load (kips/ft.).

Msℙ: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M𝕃: Un-factored live load moment (kip-ft.).

MI: Un-factored moment due to impact (kip-ft).

Ma: Factored design moment (kip-ft.).
1.3 [Mℙ + Msℙ + $\frac{5}{3}$ (M𝕃 + MI)]

Mbℓ: Factored lateral bending moment for flange plate (kip-ft.).

fℓ: Factored calculated normal stress at the edge of flange due to lateral bending (ksi).

fs(Overload): Sum of stresses as computed from the moments below (ksi).
Mℙ + Msℙ + $\frac{5}{3}$ (M𝕃 + MI)

fs(Total): Sum of stresses as computed from the moments below (ksi).
1.3 [Mℙ + Msℙ + $\frac{5}{3}$ (M𝕃 + MI)]

Fcr(Overload): Critical average flange stress at overload computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges Section 9.5 (ksi.).

Fcr: Critical average flange stress (smaller of Fcr1 or Fcr2 for partially braced flanges and F for continuously braced flanges) computed according to the 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges (Sections 5.2, 5.3 and 5.4) (ksi).

VR: Maximum𝕃 + impact shear range within span for stud shear connector design (kips).

Note:
M𝕃 and R𝕃 include the effects of centrifugal force and superelevation.

Cell Name: D00136
Descrip: LFD PPC I beam data tables

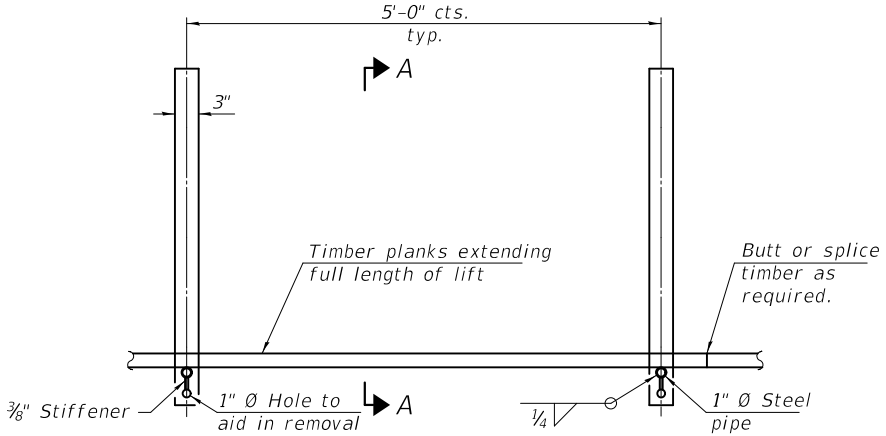
INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or 2	0.5 Sp. 2
I	(in^4)			
I'	(in^4)			
Sb	(in^3)			
Sb'	(in^3)			
St	(in^3)			
St'	(in^3)			
D_L	($k/'$)			
M_{D_L}	($'k$)			
s_{D_L}	($k/'$)			
Ms_{D_L}	($'k$)			
M_{L_L}	($'k$)			
MI	($'k$)			

INTERIOR BEAM REACTION TABLE				
		Abut.	Pier 1 Span 1 Pier 2 Span 3	Pier 1 Span 2 Pier 2 Span 2
	R_{D_L} (k)			
*	$R_{s_{D_L}}$ (k)			
*	R_{L_L} (k)			
*	RI (k)			
	R_{Total} (k)			

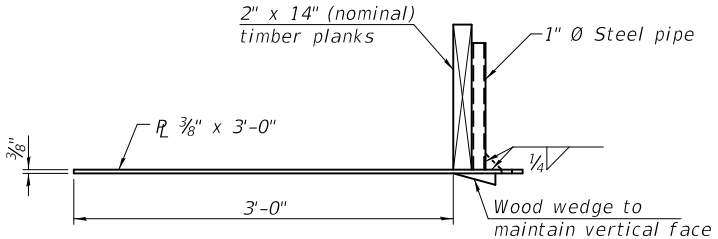
* At continuous piers, reactions from composite loads are assumed to be equally distributed to each bearing line.

I: Non-composite moment of inertia of beam section ($in.^4$).
I': Composite moment of inertia of beam section ($in.^4$).
Sb: Non-composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
Sb': Composite section modulus for the bottom fiber of the prestressed beam ($in.^3$).
St: Non-composite section modulus for the top fiber of the prestressed beam ($in.^3$).
St': Composite section modulus for the top fiber of the prestressed beam ($in.^3$).
D_L: Un-factored non-composite dead load (kips/ft.).
M_{D_L}: Un-factored moment due to non-composite dead load conservatively taken at 0.5 of the span (kip-ft.).
s_{D_L}: Un-factored long-term composite (superimposed) dead load (kips/ft.).
Ms_{D_L}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).
M_{L_L}: Un-factored live load moment on the composite section (kip-ft.).
MI: Un-factored moment due to impact on the composite section (kip-ft.).

Cell Name: D00140
Descrip: Geotextile wall form brace details



PLAN

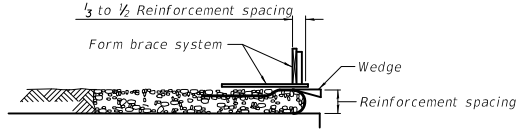


SECTION A-A

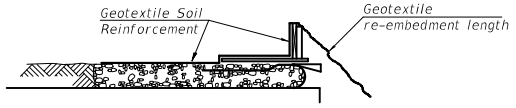
GEOTEXTILE
FORM BRACE DETAIL

Note:
This is a suggested detail, the Contractor is responsible for the design of the form brace system to be used.

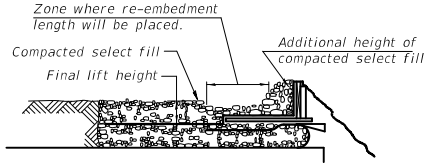
Cell Name: D00141
Descrip: Geotextile wall procedure



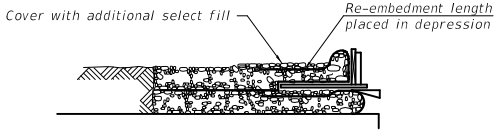
1. Place form brace system on completed reinforcement level; back from the finished fabric face a distance of ⅓ to ½ the geotextile reinforcement spacing.



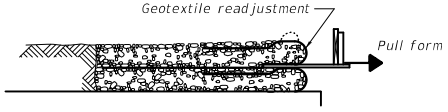
2. Position fabric so that the required geotextile re-embedment length extends over the top of the form brace and the design reinforcement width is placed with no slack against the previous level.



3. Compact select fill material in lifts to final lift height, create (±3") depression in zone where re-embedment length will be located and place additional height of compacted select fill against form brace.



4. Fold geotextile re-embedment length back over form brace into zone where depression was made in select fill and place additional select fill (±3") to embed geotextile and bring to final lift height.

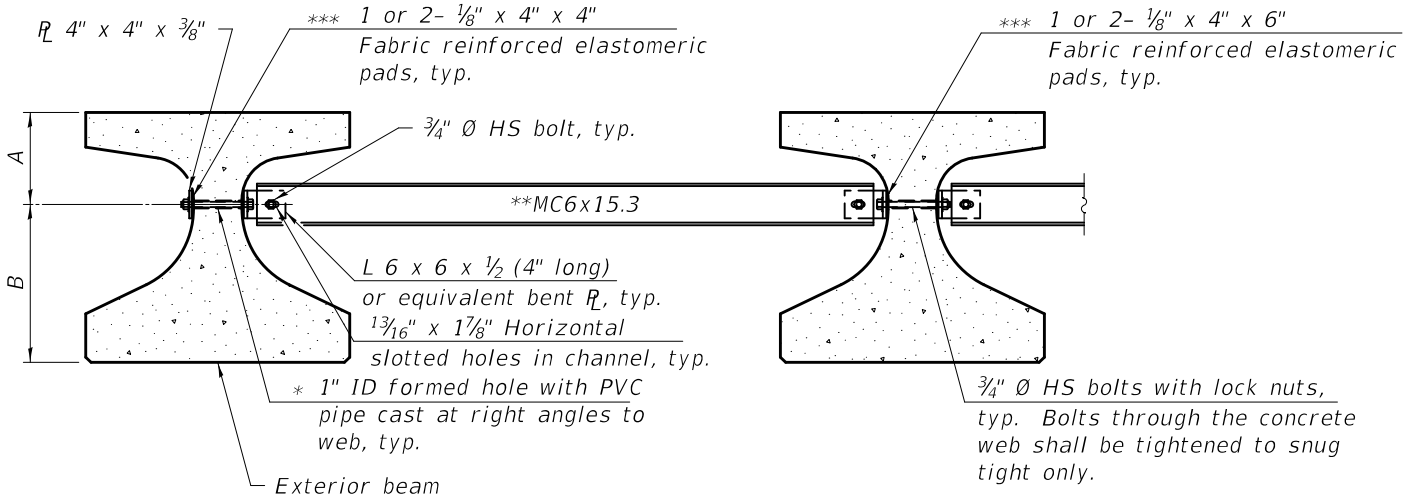


5. Pull form brace outward allowing geotextile face to slightly readjust to form tight round face level with plan reinforcement spacing.

GEOTEXTILE WALL CONSTRUCTION SEQUENCE

Note:
The geotextile soil reinforcement shall have a minimum allowable tensile strength (T min.) of lb./in. as determined by the procedure described in the Special Provision. The computations supporting the determination of (T min.) shall be submitted to the engineer for approval.

Cell Name: D00155
Descrip: Permanent bracing details for IL27 & IL36 beams



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16" Ø unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

Beam	A	B
IL27	11 1/4"	1'-3 3/4"
IL36	1'-1 1/4"	1'-10 3/4"

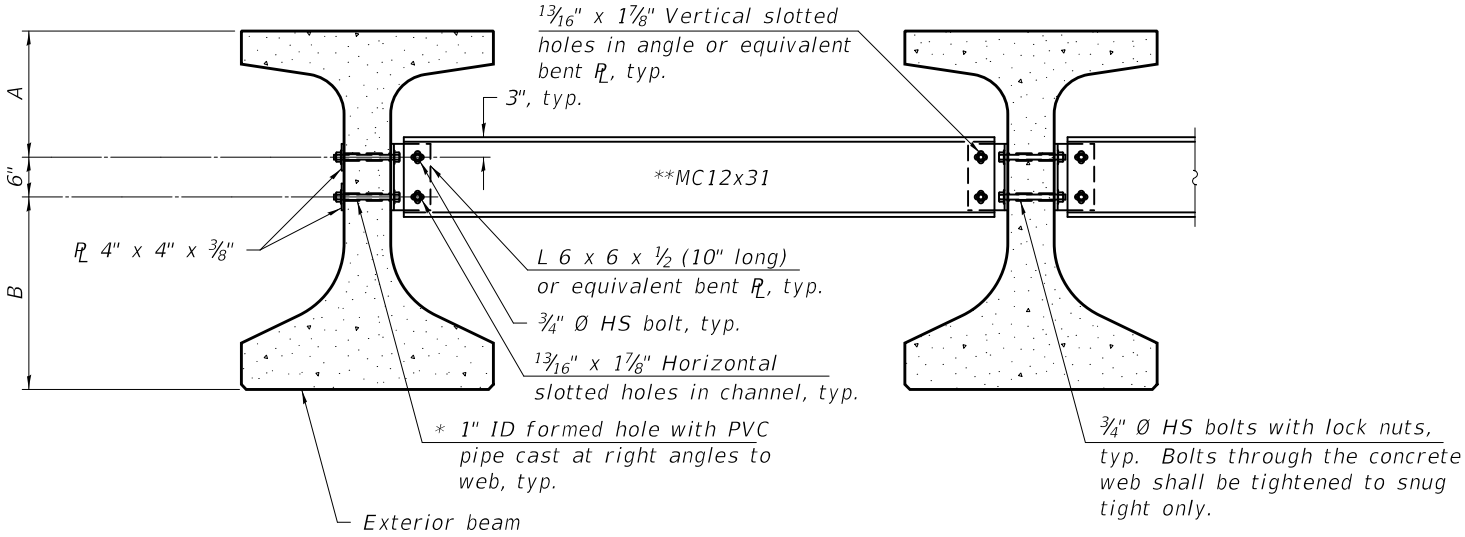
* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate MC6x18 channels are permitted to facilitate material acquisition.

*** Place pads as necessary to provide a flat mounting surface between the steel and concrete.

PERMANENT BRACING DETAILS FOR IL27 AND IL36 BEAMS

Cell Name: D00156
Descrip: Permanent bracing details for IL45 & IL54 beams



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16" Ø unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

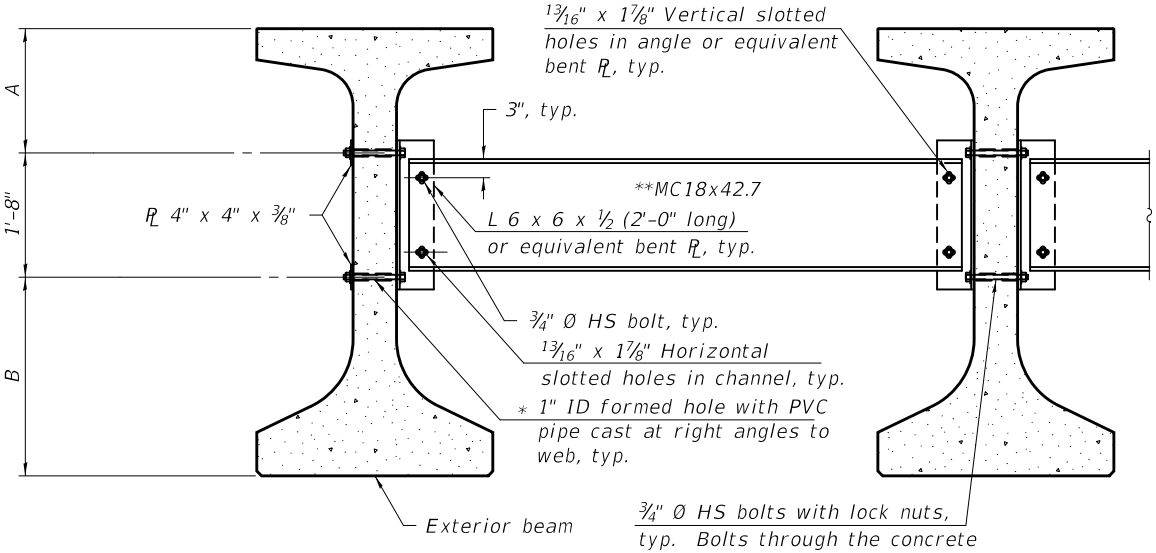
Beam	A	B
IL45	1'-3"	2'-0"
IL54	1'-7"	2'-5"

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate MC12x35 channels are permitted to facilitate material acquisition.

PERMANENT BRACING DETAILS FOR IL45 AND IL54 BEAMS

Cell Name: D00157
Descrip: Permanent bracing details for IL63 & IL72 beams



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16" Ø unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Beams.

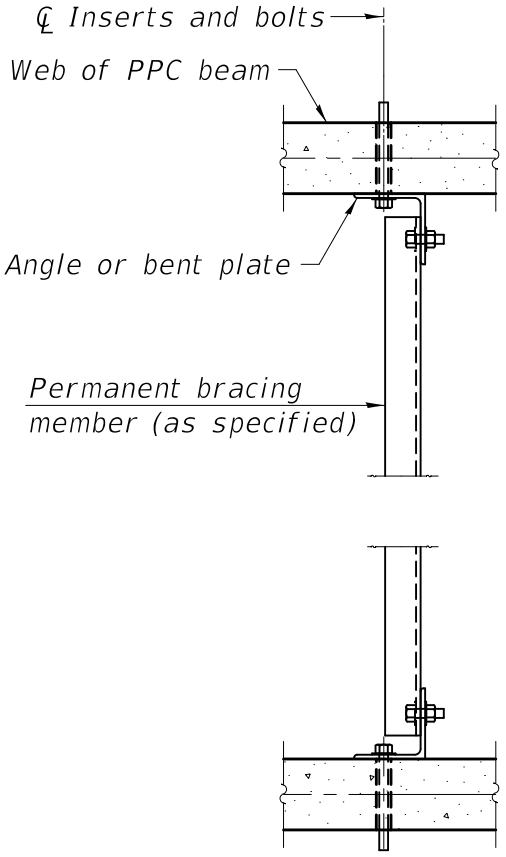
Beam	A	B
IL63	1'-4"	2'-3"
IL72	1'-8"	2'-8"

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate MC18x45.8 channels are permitted to facilitate material acquisition.

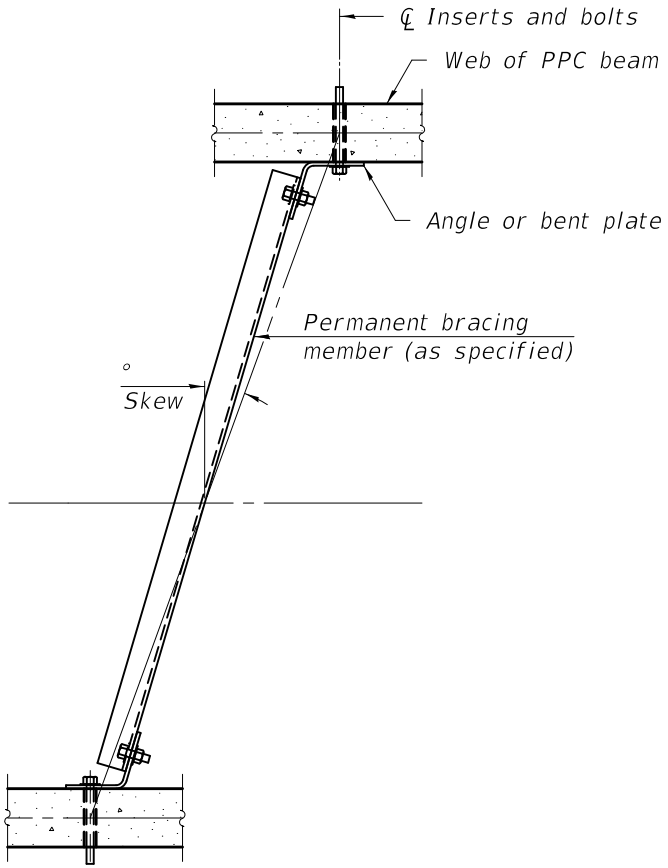
PERMANENT BRACING DETAILS FOR IL63 AND IL72 BEAMS

Cell Name: D00158
Descrip: Permanent bracing detail – No skew



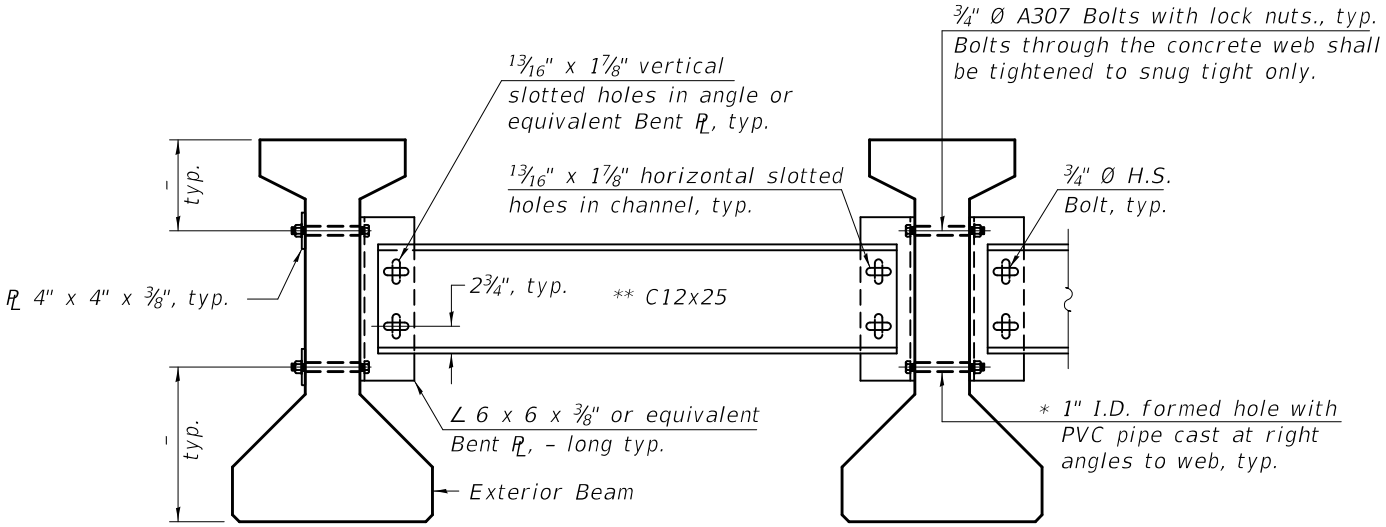
PLAN
(When 90° bracing is specified)

Cell Name: D00159
Descrip: Permanent bracing detail – Skewed



PLAN
(When skewed bracing is specified)

Cell Name: D00160
Descrip: Permanent bracing details for 36" & 42" PPC I beams



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16" Ø unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

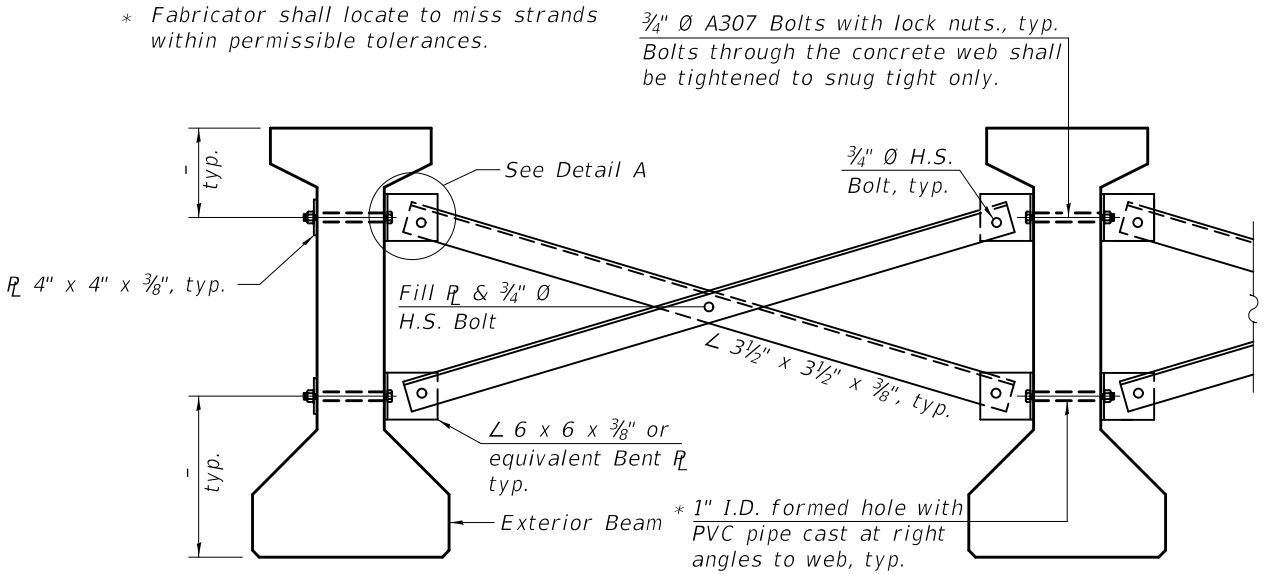
Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

* Fabricator shall locate to miss strands within permissible tolerances.

** Alternate C12x30 channels are permitted to facilitate material acquisition.

PERMANENT BRACING DETAILS FOR 36" AND 42" PPC I-BEAMS

Cell Name: D00161
Descrip: Permanent bracing details for 48" & 54" PPC I beams



Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

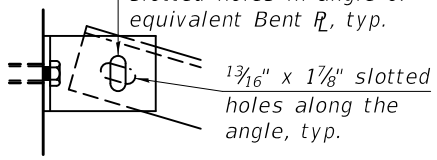
All holes shall be 15/16" Ø unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

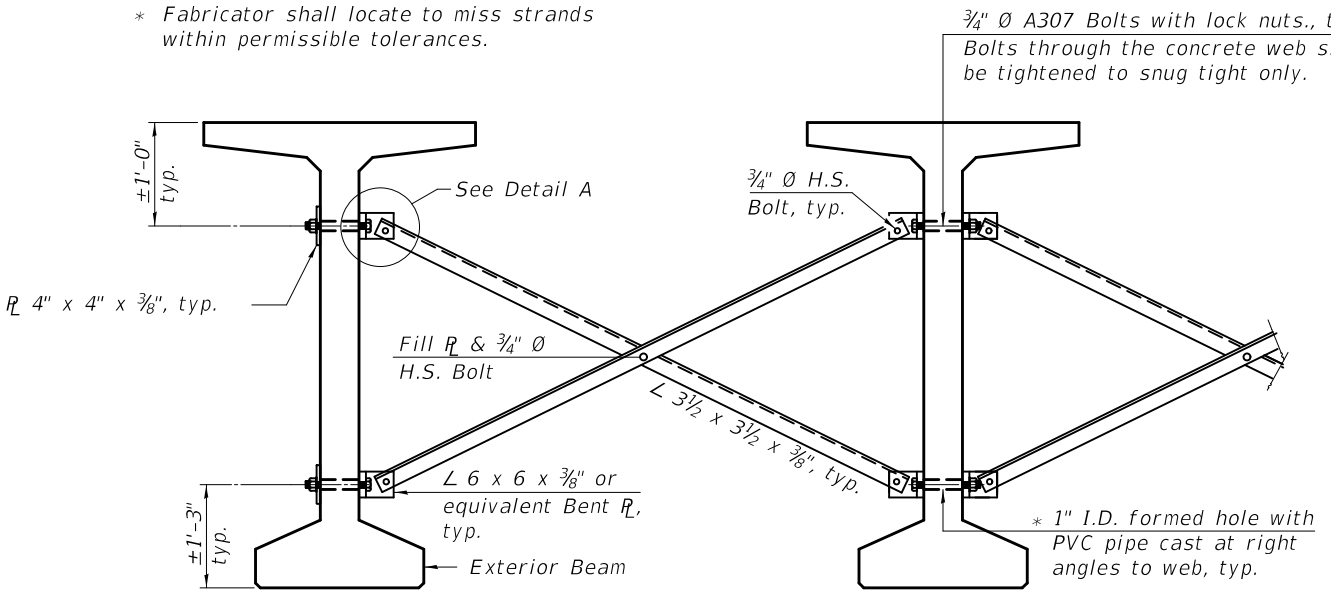
Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete I-Beams.

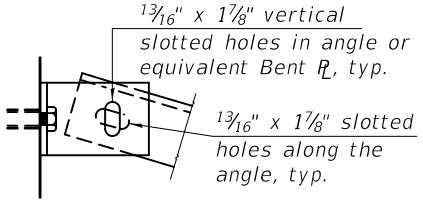


DETAIL A

PERMANENT BRACING DETAILS FOR 48" AND 54" PPC I-BEAMS

Cell Name: D00162
Descrip: Permanent bracing details for Bulb T beams





DETAIL A

Notes:

All material for bracing shall be hot dip galvanized according to AASHTO M111 unless otherwise noted.

Two hardened washers are required for each set of oversized holes.

All holes shall be 15/16" Ø unless otherwise noted.

5/16" x 3" x 3" plate washers are required over all slotted holes.

All bolts shall be galvanized according to AASHTO M232.

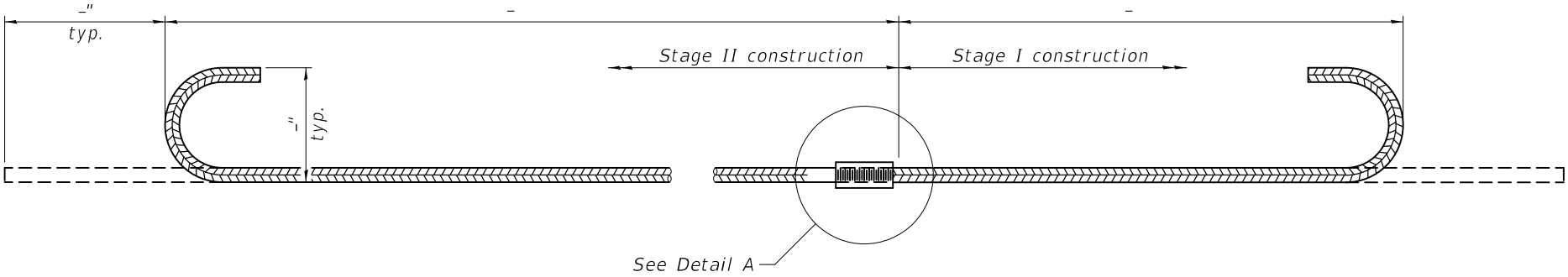
Bracing shall be installed as beams are erected and tightened as soon as possible during erection.

Permanent bracing shall not be paid for separately, but shall be included in the cost of Furnishing and Erecting Precast Prestressed Concrete Bulb T-Beams.

PERMANENT BRACING DETAILS FOR BULB-T BEAMS

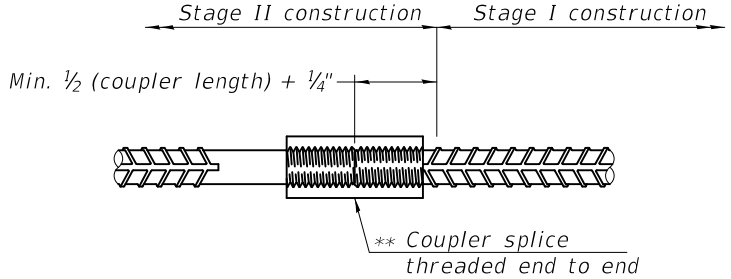
Cell Name: D00163
Descrip: Bar splicer assembly for edge beams at stage construction joint

** The bar splicer assembly shall allow completion of the splice without turning of the hook bars. The stage II splice bar shall be threaded such that the entire coupler can be threaded onto the splice bar.



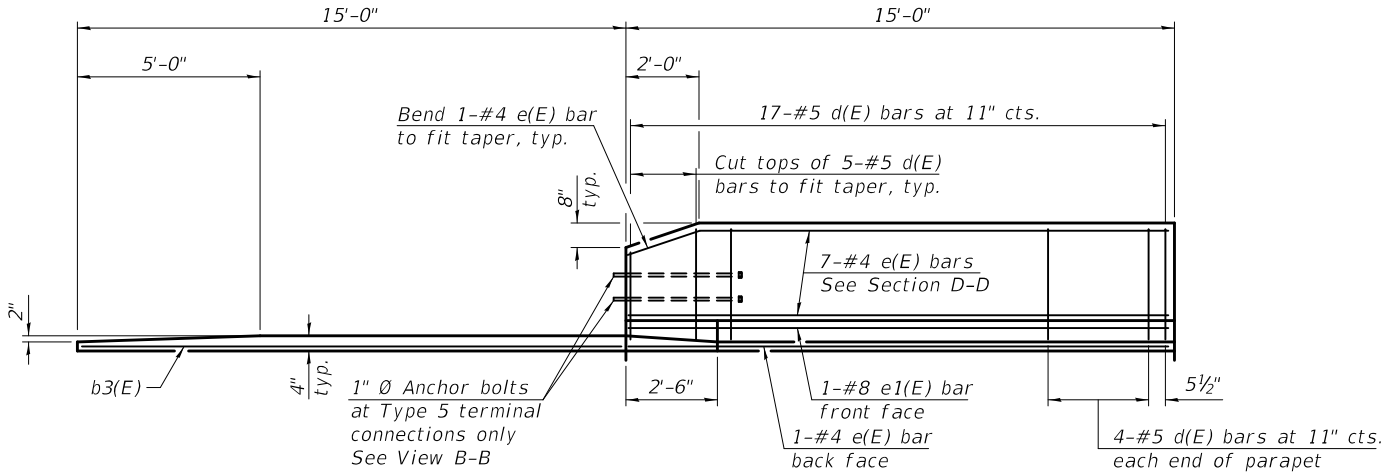
#– a-(E) BAR SPLICER ASSEMBLY FOR EDGE BEAMS AT STAGE CONSTRUCTION JOINT

No. required =



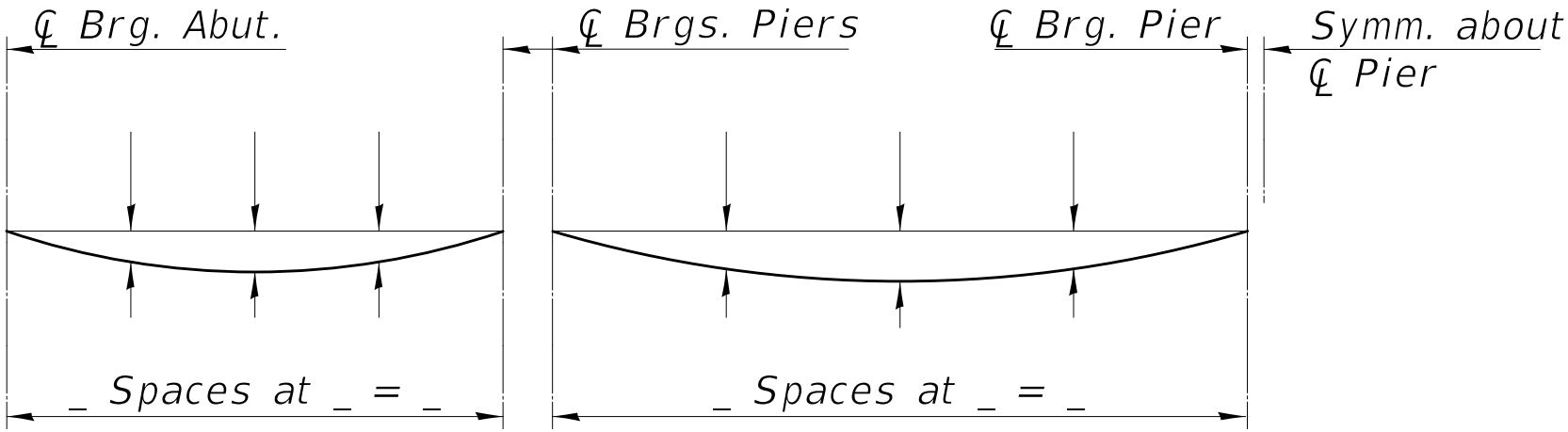
DETAIL A

Cell Name: D00170
Descrip: View E-E for Bridge approach slabs with 42" parapets



VIEW E-E

Cell Name: D00200
Descrip: Dead load deflection diagram for top of slab elements



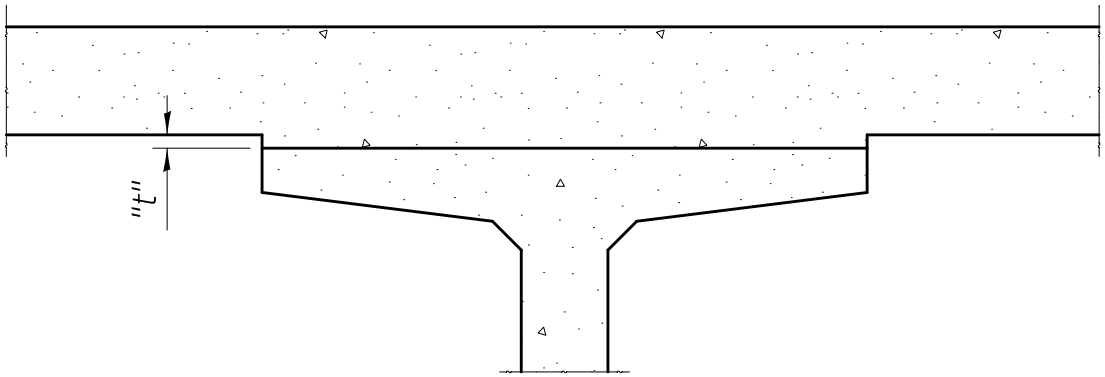
DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete, excluding beams).

Note:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

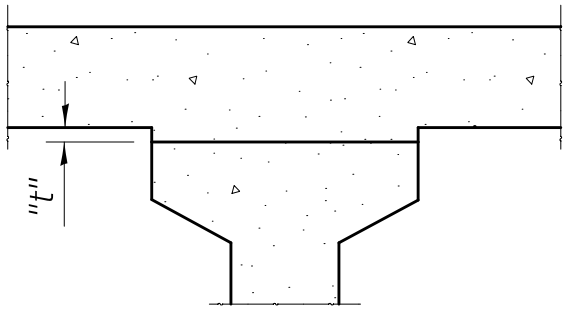
Cell Name: D00201
Descrip: PPC Bulb T-beam fillet height detail for top of slab elevations



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS

Cell Name: D00202
Descrip: PPC I-beam fillet height detail for top of slab elevations



To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

FILLET HEIGHTS